

Flame, Gas, and Systems Product Catalog

September 1, 2008 to August 31, 2009

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X3301 Protect•ir® Multispectrum Infrared Flame Detector

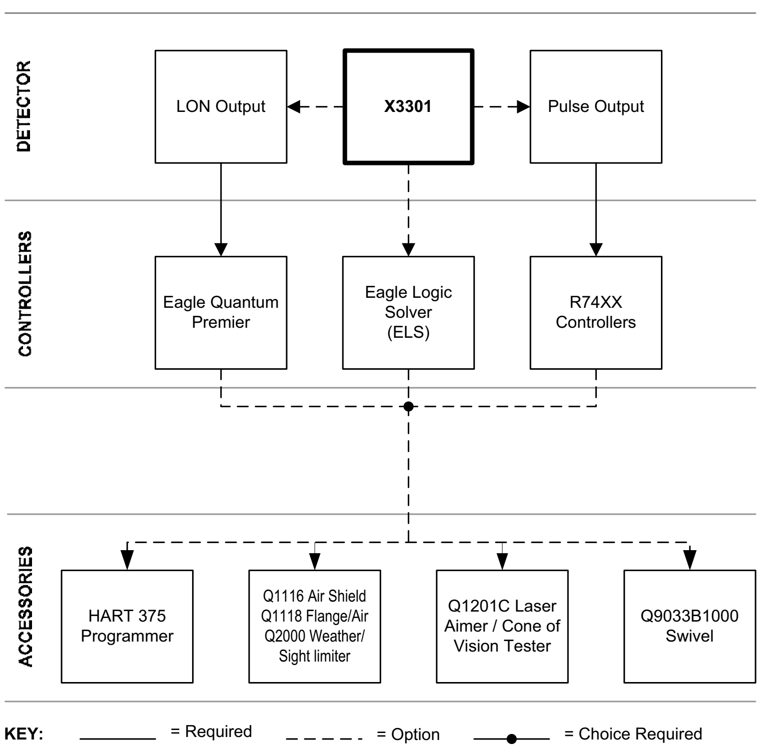




X3301 Protect•ir Multispectrum Infrared Flame Detector (Spec Sheet: 90-1143, 90-1144, 90-1190) establishes the benchmark in multiple-fuel fire detection performance and false alarm rejection. The detector utilizes advanced signal processing algorithms supported by an embedded 32-bit microprocessor to provide continuous protection in the presence of false alarm sources and environments with infrared radiation present. The Long Range version has a detection range of 210 feet to a 1 square foot n-Heptane fire and is recommended for any indoor/outdoor application. The Medium Range version has a detection range of 100 feet to a 1 square foot n-Heptane fire and is recommended for outdoor applications such as offshore oil/gas platforms where flares or other friendly fires are located. The detector is available in aluminum or 316 stainless steel. Standard outputs include fire alarm, auxiliary alarm, and fault relays and RS485 Modbus. Optional 4 to 20 mA, Eagle Quantum Premier, or HART output is also available. Pulse output is available for easy retro fitting into controller-based systems.

- Eagle Quantum Premier compatibility
- Increased sensitivity, certified performance to multiple fuel types
- MTBF of 145,000 hours
- New standard set for cone of vision, 100 feet on and off axis for methane
- Microprocessor controlled heated optics enable optimal performance in adverse environments
- Data logger for event time and date stamping
- RS485 Modbus output
- Automatic optical integrity check on each sensor
- Calibrated manual testing/mag oi, no test lamp required
- Four conduit entries for easy installation
- IECEx, FM, CSA , ATEX/CE, DNV, ULC, VDS
- EN 54 part 10 certified by VDS
- Patent number: 5,995,008; 5,804,825; 5,850,182
- **Models available with SIL 2 certification**
- Optional HART output and AMS aware
- Models available with integral explosion proof camera option (xWatch)

Meets NFPA-33 Response requirements for under 0.5 seconds (available when model selected)



X3301 Model Matrix

MODEL	DESCRIPTION
X3301	Multispectrum IR Flame Detector

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel (316)

TYPE	THREAD TYPE
3M	3 Port, Metric M25
3N	3 Port, 3/4" NPT
4M	4 Port, Metric M25
4N	4 Port, 3/4" NPT

TYPE	OUTPUTS
11	Relay
13	Relay and 4-20 mA
14	Eagle Quantum Premier (EQP)
15	Relay and Pulse
16	Addressable Module Only (third-party type)
21	Relay - Automotive
22	EQP - Automotive
23	HART, Relay, and 4-20 mA
33	Relay and 4-20 mA / NTSC (xWatch)
34	Eagle Quantum Premier / NTSC (xWatch)
43	Relay and 4-20 mA / PAL (xWatch)
44	Eagle Quantum Premier / PAL (xWatch)

TYPE	APPROVALS
T	SIL/FM/CSA/ATEX/CE
W	FM/CSA/ULC*/ATEX/CE
A	FM/CSA
R	VNIIPO/VNIIFTRI (RUSSIA)
U	TCCExEE/UKRCEPRO (UKRAINE)
Y	CCCF (CHINA)

TYPE	CLASSIFICATION**
1	Division/Zone Ex de
2	Division/Zone Ex d

*ULC approval is not part of the LON output (Type 14).
**Detectors are always Class I, Div. 1. See Manual.

MULTISPECTRUM INFRARED

X3301 Protect•ir Multispectrum Infrared Flame Detector

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	FM/CSA/ ATEX/CE	Ship Weight
X3301A4N11W1	008100-XXX	AL	3/4 NPT	Relay	X		X	6 lb (2.75 kg)
X3301A4M11W1	008101-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X3301S4N11W1	008102-XXX	316 SS	3/4 NPT	Relay	X		X	10 lb (4.54 kg)
X3301S4M11W1	008103-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X3301A4N11W2	008104-XXX	AL	3/4 NPT	Relay		X	X	6 lb (2.75 kg)
X3301A4M11W2	008105-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X3301S4N11W2	008106-XXX	316 SS	3/4 NPT	Relay		X	X	10 lb (4.54 kg)
X3301S4M11W2	008107-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X3301A4N13W1	008108-XXX	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301A4M13W1	008109-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301S4N13W1	008110-XXX	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301S4M13W1	008111-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301A4N13W2	008120-XXX	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301A4M13W2	008121-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301S4N13W2	008122-XXX	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301S4M13W2	008123-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301A4N15W1	008112-XXX	AL	3/4 NPT	Pulse/Relay	X		X	6 lb (2.75 kg)
X3301A4M15W1	008113-XXX	AL	M25	Pulse/Relay	X		X	6 lb (2.75 kg)
X3301S4N15W1	008114-XXX	316 SS	3/4 NPT	Pulse/Relay	X		X	10 lb (4.54 kg)
X3301S4M15W1	008115-XXX	316 SS	M25	Pulse/Relay	X		X	10 lb (4.54 kg)
X3301A4N15W2	008132-XXX	AL	3/4 NPT	Pulse/Relay		X	X	6 lb (2.75 kg)
X3301A4M15W2	008133-XXX	AL	M25	Pulse/Relay		X	X	6 lb (2.75 kg)
X3301S4N15W2	008134-XXX	316 SS	3/4 NPT	Pulse/Relay		X	X	10 lb (4.54 kg)
X3301S4M15W2	008135-XXX	316 SS	M25	Pulse/Relay		X	X	10 lb (4.54 kg)
X3301A4N21W1	008116-005	AL	3/4 NPT	Automotive	X		X	6 lb (2.75 kg)
X3301A4M21W1	008117-005	AL	M25	Automotive	X		X	6 lb (2.75 kg)
X3301A4N21W2	008118-005	AL	3/4 NPT	Automotive		X	X	6 lb (2.75 kg)
X3301A4M21W2	008119-005	AL	M25	Automotive		X	X	6 lb (2.75 kg)
X3301A4N23W1	008208-XXX	AL	3/4 NPT	Rly/4-20/HART	X		X	6 lb (2.75 kg)
X3301A4M23W1	008209-XXX	AL	M25	Rly/4-20/HART	X		X	6 lb (2.75 kg)
X3301S4N23W1	008210-XXX	316 SS	3/4 NPT	Rly/4-20/HART	X		X	10 lb (4.54 kg)
X3301S4M23W1	008211-XXX	316 SS	M25	Rly/4-20/HART	X		X	10 lb (4.54 kg)
X3301A4N23W2	008220-XXX	AL	3/4 NPT	Rly/4-20/HART		X	X	6 lb (2.75 kg)
X3301A4M23W2	008221-XXX	AL	M25	Rly/4-20/HART		X	X	6 lb (2.75 kg)
X3301S4N23W2	008222-XXX	316 SS	3/4 NPT	Rly/4-20/HART		X	X	10 lb (4.54 kg)
X3301S4M23W2	008223-XXX	316 SS	M25	Rly/4-20/HART		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.

X3301 Protect•ir Multispectrum Infrared Flame Detector – EQP

Model	Part Number	Material	Threads	Output	EEx de	EEx d	FM/CSA/ ATEX/CE	Ship Weight
X3301A4N14W1	008124-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X3301A4M14W1	008125-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X3301S4N14W1	008126-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X3301S4M14W1	008127-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X3301A4N14W2	008128-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X3301A4M14W2	008129-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X3301S4N14W2	008130-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X3301S4M14W2	008131-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X3301A4N14W1	008124-034	AL	3/4 NPT	EQP/Hangar	X		X	6 lb (2.75 kg)
X3301A4M14W1	008125-034	AL	M25	EQP/Hangar	X		X	6 lb (2.75 kg)
X3301S4N14W1	008126-034	316 SS	3/4 NPT	EQP/Hangar	X		X	10 lb (4.54 kg)
X3301S4M14W1	008127-034	316 SS	M25	EQP/Hangar	X		X	10 lb (4.54 kg)
X3301A4N14W2	008128-034	AL	3/4 NPT	EQP/Hangar		X	X	6 lb (2.75 kg)
X3301A4M14W2	008129-034	AL	M25	EQP/Hangar		X	X	6 lb (2.75 kg)
X3301S4N14W2	008130-034	316 SS	3/4 NPT	EQP/Hangar		X	X	10 lb (4.54 kg)
X3301S4M14W2	008131-034	316 SS	M25	EQP/Hangar		X	X	10 lb (4.54 kg)
X3301A4N22W1	008226-005	AL	3/4 NPT	EQP/Automotive	X		X	6 lb (2.75 kg)
X3301A4M22W1	008227-005	AL	M25	EQP/Automotive	X		X	6 lb (2.75 kg)
X3301A4N22W2	008228-005	AL	3/4 NPT	EQP/Automotive		X	X	6 lb (2.75 kg)
X3301A4M22W2	008229-005	AL	M25	EQP/Automotive		X	X	6 lb (2.75 kg)

The standard EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting (-005 Automotive version and -034 Hangar version are not configurable).
Note: Hangar mode has delayed response.

X3301 Protect•ir Multispectrum Infrared Flame Detector SIL 2 Certified

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	SIL/FM/CSA/ ATEX/CE	Ship Weight
X3301A4N13T1	008258-XXX	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301A4M13T1	008259-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301S4N13T1	008260-XXX	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301S4M13T1	008261-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301A4N13T2	008270-XXX	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301A4M13T2	008271-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301S4N13T2	008272-XXX	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301S4M13T2	008273-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301A4N14T1	008262-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X3301A4M14T1	008263-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X3301S4N14T1	008264-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X3301S4M14T1	008265-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X3301A4N14T2	008274-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X3301A4M14T2	008275-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X3301S4N14T2	008276-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X3301S4M14T2	008277-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.
The standard EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting.

MULTISPECTRUM INFRARED

X3301 Protect•ir Multispectrum Infrared Flame Detector - China

Model	Part Number	Material	Threads	Output	EEx de	EEx d	CCCF China	Ship Weight
X3301A4N11Y2	008280-001	AL	3/4 NPT	Relay		X	X	6 lb (2.75 kg)
X3301A4M11Y2	008281-001	AL	M25	Relay		X	X	6 lb (2.75 kg)
X3301S4N11Y2	008282-001	316 SS	3/4 NPT	Relay		X	X	10 lb (4.54 kg)
X3301S4M11Y2	008283-001	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X3301A4N13Y2	008284-001	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301A4M13Y2	008285-001	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301S4N13Y2	008286-001	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301S4M13Y2	008287-001	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301A4N14Y2	008288-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X3301A4M14Y2	008289-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X3301S4N14Y2	008290-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X3301S4M14Y2	008291-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X3301A4N21Y2	008292-005	AL	3/4 NPT	Automotive		X	X	6 lb (2.75 kg)
X3301A4M21Y2	008293-005	AL	M25	Automotive		X	X	6 lb (2.75 kg)
X3301A4N23Y2	008294-001	AL	3/4 NPT	Rly/4-20/HART		X	X	6 lb (2.75 kg)
X3301A4M23Y2	008295-001	AL	M25	Rly/4-20/HART		X	X	6 lb (2.75 kg)
X3301S4N23Y2	008296-001	316 SS	3/4 NPT	Rly/4-20/HART		X	X	10 lb (4.54 kg)
X3301S4M23Y2	008297-001	316 SS	M25	Rly/4-20/HART		X	X	10 lb (4.54 kg)

The standard EQP detectors are completely configurable using the S3 software and are defaulted to the -001 setting.

X3301 Protect•ir Multispectrum Infrared Flame Detector - Russia

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	VNIIPO/ VNIIFTRI Russia	Ship Weight
X3301A4M11R1	008136-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X3301S4M11R1	008137-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X3301A4M11R2	008138-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X3301S4M11R2	008139-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X3301A4M13R1	008140-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301S4M13R1	008141-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301A4M13R2	008142-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301S4M13R2	008143-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301A4M14R1	008160-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X3301S4M14R1	008161-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X3301A4M14R2	008162-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X3301S4M14R2	008163-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.
The standard EQP detectors are completely configurable using the S3 software and are defaulted to the -001 setting.

X3301 Protect•ir Multispectrum Infrared Flame Detector - Ukraine

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	TCCExEE/ UKRCEPRO Ukraine	Ship Weight
X3301A4M11U1	008152-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X3301S4M11U1	008153-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X3301A4M11U2	008154-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X3301S4M11U2	008155-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X3301A4M13U1	008156-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301S4M13U1	008157-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301A4M13U2	008158-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301S4M13U2	008159-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option.

X3301 Protect•ir Multispectrum Infrared Flame Detector / xWatch Camera

Model	Part Number *	Material	Threads	Output	Video	EEx d	FM/CSA	Ship Weight
X3301A3N33A2	009500-XXX	AL	3/4 NPT	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X3301A3M33A2	009501-XXX	AL	M25	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X3301S3N33A2	009502-XXX	SS	3/4 NPT	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X3301S3M33A2	009503-XXX	SS	M25	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X3301A3N43A2	009504-XXX	AL	3/4 NPT	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X3301A3M43A2	009505-XXX	AL	M25	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X3301S3N43A2	009506-XXX	SS	3/4 NPT	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X3301S3M43A2	009507-XXX	SS	M25	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X3301A3N34A2	009508-001	AL	3/4 NPT	EQP	NTSC	X	X	9 lb (4.1 kg)
X3301A3M34A2	009509-001	AL	M25	EQP	NTSC	X	X	9 lb (4.1 kg)
X3301S3N34A2	009510-001	SS	3/4 NPT	EQP	NTSC	X	X	14 lb (6.4 kg)
X3301S3M34A2	009511-001	SS	M25	EQP	NTSC	X	X	14 lb (6.4 kg)
X3301A3N44A2	009512-001	AL	3/4 NPT	EQP	PAL	X	X	9 lb (4.1 kg)
X3301A3M44A2	009513-001	AL	M25	EQP	PAL	X	X	9 lb (4.1 kg)
X3301S3N44A2	009514-001	SS	3/4 NPT	EQP	PAL	X	X	14 lb (6.4 kg)
X3301S3M44A2	009515-001	SS	M25	EQP	PAL	X	X	14 lb (6.4 kg)

*The last 3 digits of the part number identify the software configuration. Please see table A1 to choose the correct option. The standard EQP detectors are completely configurable using the S3 software and are defaulted to the -001 setting.

MULTISPECTRUM INFRARED

Table A1 - X3301 Software Part Number Configuration Matrix

Dash	Sensitivity	Alarm Relay	Aux Relay	Fault Relay	Special
-001	Medium	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-002	Very High	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-004	Low	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-005*	Medium	De-energized Non-latching	De-energized Non-latching	Energized Non-latching	Automotive
-006	Medium	De-energized Latching	De-energized Latching	Energized Non-latching	None
-007	Very High	De-energized Latching	De-energized Latching	Energized Non-latching	None
-009	Low	De-energized Latching	De-energized Latching	Energized Non-latching	None
-034	Medium	De-energized Non-Latching	De-energized Non-Latching	Energized Non-latching	Hangar**
-035	Very High	De-energized Non-Latching	De-energized Non-Latching	Energized Non-latching	Hangar**

*Available only on type 21 and 22 (Automotive) outputs.
**Consult factory for recommendations. Hangar mode has delayed response.

Application Recommendations

These are typical industry application settings. They may not be applicable to all installations. Contact factory for application guidance.

General Duty	001
Offshore	001, 004
Turbine	001, 004
Compressor	001, 002
Hangar	002, 034 or 035
Automotive	005

Note: Latching relays cannot be used in voted systems.

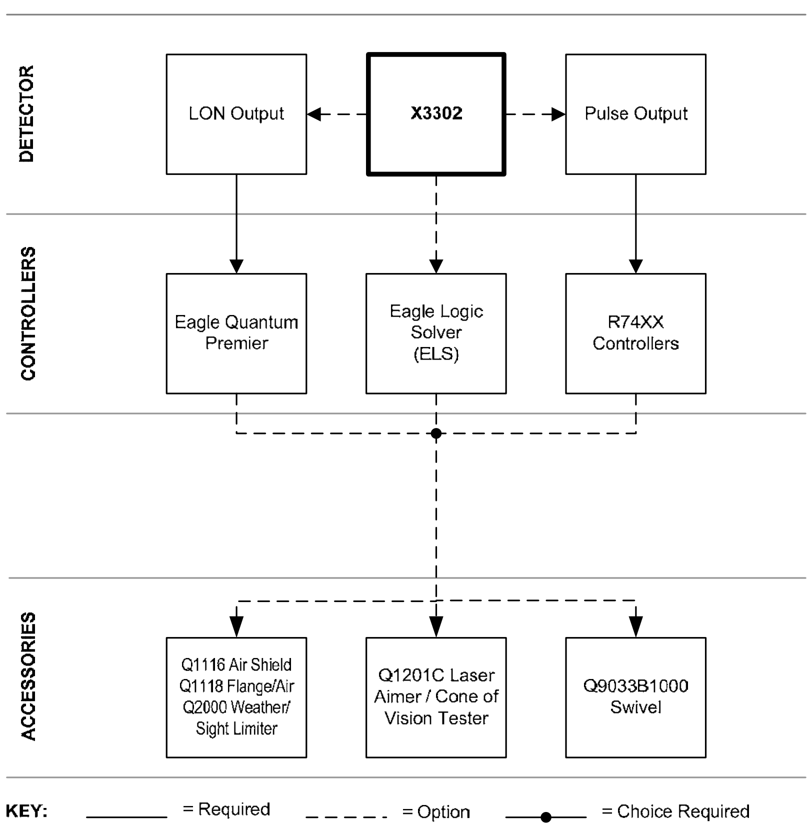
NOTES

X3302 Multispectrum Infrared Flame Detector



X3302 Multispectrum Infrared Flame Detector (Spec Sheet: 90-1185) provides a solid cone of vision for hydrogen fire detection coupled with superior false alarm rejection. The detector utilizes advanced signal processing algorithms supported by an embedded 32-bit microprocessor to provide continuous protection in the presence of false alarm sources and environments with infrared radiation present. The Long Range version has a detection range of 100 feet on and off axis to a hydrogen fire and is recommended for any indoor/outdoor application. The detector is available in aluminum or 316 stainless steel. Standard outputs include fire alarm, auxiliary alarm, and fault relays and RS485 Modbus. Optional 4 to 20 mA or Eagle Quantum Premier output is also available. Pulse output is available for easy retro fitting into controller-based systems.

- Eagle Quantum Premier compatible
- Increased sensitivity and certified performance
- MTBF of 145,000 hours
- New standard set for cone of vision, 100 feet on and off axis for hydrogen
- Microprocessor controlled heated optics, enable optimal performance in adverse environments
- Data logger for event time and date stamping
- RS485 Modbus output
- Optional HART output
- Automatic optical integrity check on each sensor
- Calibrated manual testing/mag oi, no test lamp required
- Four conduit entries for easy installation
- IECEx, FM, CSA, ATEX/CE
- Patent number: 5,995,008; 5,804,825; 5,850,182
- Models available with integral explosion proof camera option (xWatch)



X3302 Model Matrix

MODEL	DESCRIPTION
X3302	Multispectrum IR Flame Detector

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel (316)

TYPE	THREAD TYPE
3M	3 Port, Metric M25
3N	3 Port, 3/4" NPT
4M	4 Port, Metric M25
4N	4 Port, 3/4" NPT

TYPE	OUTPUTS
13	Relay and 4-20 mA
14	Eagle Quantum Premier (EQP)
15	Relay and Pulse
16	Addressable Module Only (third-party type)
23	HART, Relay, and 4-20 mA
33	Relay and 4-20 mA / NTSC (xWatch)
34	Eagle Quantum Premier / NTSC (xWatch)
43	Relay and 4-20 mA / PAL (xWatch)
44	Eagle Quantum Premier / PAL (xWatch)

TYPE	APPROVAL AGENCY
W	FM/CSA/ATEX/CE
A	FM/CSA
R	VNIIPO/VNIIFTRI (RUSSIA)

TYPE	CLASSIFICATION*
1	Division/Zone Ex de
2	Division/Zone Ex d

*Detectors are always Class I, Div. 1. See Manual.

MULTISPECTRUM INFRARED

X3302 Multispectrum Infrared Flame Detector

Model	Part Number*	Material	Threads	Output	EEx de	EEx d	FM/CSA/ ATEX/CE	Ship Weight
X3302A4N13W1	009008-XXX	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3302A4M13W1	009009-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3302S4N13W1	009010-XXX	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3302S4M13W1	009011-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3302A4N13W2	009012-XXX	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3302A4M13W2	009013-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3302S4N13W2	009014-XXX	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3302S4M13W2	009015-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3302A4N14W1	009024-002	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X3302A4M14W1	009025-002	AL	M25	EQP	X		X	6 lb (2.75 kg)
X3302S4N14W1	009026-002	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X3302S4M14W1	009027-002	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X3302A4N14W2	009028-002	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X3302A4M14W2	009029-002	AL	M25	EQP		X	X	6 lb (2.75 kg)
X3302S4N14W2	009030-002	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X3302S4M14W2	009031-002	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X3302A4N15W1	009016-XXX	AL	3/4 NPT	Pulse/Relay	X		X	6 lb (2.75 kg)
X3302A4M15W1	009017-XXX	AL	M25	Pulse/Relay	X		X	6 lb (2.75 kg)
X3302S4N15W1	009018-XXX	316 SS	3/4 NPT	Pulse/Relay	X		X	10 lb (4.54 kg)
X3302S4M15W1	009019-XXX	316 SS	M25	Pulse/Relay	X		X	10 lb (4.54 kg)
X3302A4N15W2	009020-XXX	AL	3/4 NPT	Pulse/Relay		X	X	6 lb (2.75 kg)
X3302A4M15W2	009021-XXX	AL	M25	Pulse/Relay		X	X	6 lb (2.75 kg)
X3302S4N15W2	009022-XXX	316 SS	3/4 NPT	Pulse/Relay		X	X	10 lb (4.54 kg)
X3302S4M15W2	009023-XXX	316 SS	M25	Pulse/Relay		X	X	10 lb (4.54 kg)
X3302A4N23W1	009032-XXX	AL	3/4 NPT	Rly/4-20/HART	X		X	6 lb (2.75 kg)
X3302A4M23W1	009033-XXX	AL	M25	Rly/4-20/HART	X		X	6 lb (2.75 kg)
X3302S4N23W1	009034-XXX	316 SS	3/4 NPT	Rly/4-20/HART	X		X	10 lb (4.54 kg)
X3302S4M23W1	009035-XXX	316 SS	M25	Rly/4-20/HART	X		X	10 lb (4.54 kg)
X3302A4N23W2	009036-XXX	AL	3/4 NPT	Rly/4-20/HART		X	X	6 lb (2.75 kg)
X3302A4M23W2	009037-XXX	AL	M25	Rly/4-20/HART		X	X	6 lb (2.75 kg)
X3302S4N23W2	009038-XXX	316 SS	3/4 NPT	Rly/4-20/HART		X	X	10 lb (4.54 kg)
X3302S4M23W2	009039-XXX	316 SS	M25	Rly/4-20/HART		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table A2 to choose the correct option.
The standard EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -002 setting.

X3302 Multispectrum Infrared Flame Detector - Russia

Model	Part Number*	Material	Threads	Output	EEx de	EEx d	VNIIPO/ VNIIFTRI Russia	Ship Weight
X3302A4N13W1	009040-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3302A4M13W1	009041-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3302S4N13W1	009042-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3302S4M13W1	009043-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3302A4N13W2	009044-002	AL	M25	EQP	X		X	6 lb (2.75 kg)
X3302A4M13W2	009045-002	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X3302S4N13W2	009046-002	AL	M25	EQP		X	X	6 lb (2.75 kg)
X3302S4M13W2	009047-002	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table A2 to choose the correct option.
The standard EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -002 setting.

X3302 Multispectrum Infrared Flame Detector / xWatch Camera

Model	Part Number	Material	Threads	Output	Video	EEx d	FM/CSA	Ship Weight
X3302A3N33A2	009516-002	AL	3/4" NPT	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X3302A3M33A2	009517-002	AL	M25	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X3302S3N33A2	009518-002	SS	3/4" NPT	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X3302S3M33A2	009519-002	SS	M25	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X3302A3N43A2	009520-002	AL	3/4" NPT	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X3302A3M43A2	009521-002	AL	M25	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X3302S3N43A2	009522-002	SS	3/4" NPT	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X3302S3M43A2	009523-002	SS	M25	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X3302A3N34A2	009524-002	AL	3/4" NPT	EQP	NTSC	X	X	9 lb (4.1 kg)
X3302A3M34A2	009525-002	AL	M25	EQP	NTSC	X	X	9 lb (4.1 kg)
X3302S3N34A2	009526-002	SS	3/4" NPT	EQP	NTSC	X	X	14 lb (6.4 kg)
X3302S3M34A2	009527-002	SS	M25	EQP	NTSC	X	X	14 lb (6.4 kg)
X3302A3N44A2	009528-002	AL	3/4" NPT	EQP	PAL	X	X	9 lb (4.1 kg)
X3302A3M44A2	009529-002	AL	M25	EQP	PAL	X	X	9 lb (4.1 kg)
X3302S3N44A2	009530-002	SS	3/4" NPT	EQP	PAL	X	X	14 lb (6.4 kg)
X3302S3M44A2	009531-002	SS	M25	EQP	PAL	X	X	14 lb (6.4 kg)

Table A2 - X3302 Software Part Number Configuration Matrix

Dash	Sensitivity	Alarm Relay	Aux Relay	Fault Relay	Special
-002	Very High	De-energized Non-latching	Energized Non-latching	Energized Non-latching	None
-007	Very High	De-energized Latching	De-energized Latching	Energized Non-latching	None

SINGLE FREQUENCY INFRARED

X9800 IR Flame Detector

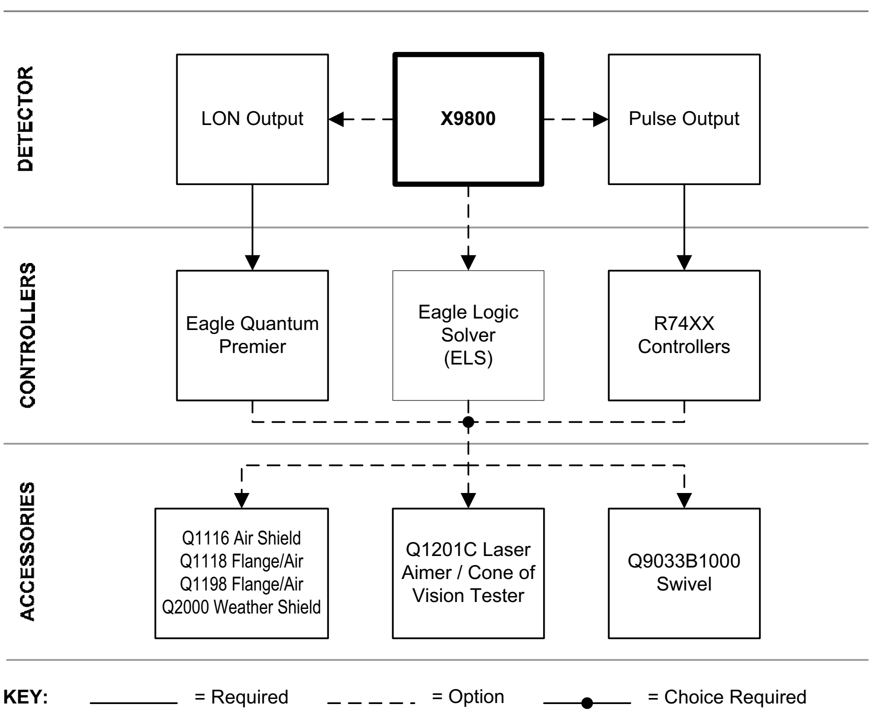


The **X9800 IR Flame Detector** (Spec Sheet: 90-1160) meets the most stringent requirements worldwide with advanced detection capabilities and immunity to extraneous sources, combined with a superior mechanical design. The detector is equipped with dual signal processing (high speed operation) and automatic/magnetic manual oi test capability. The detector has Division and Zone explosion-proof ratings and is suitable for use in indoor and outdoor applications.

The standard output configuration includes fire, fault, and auxiliary relays and RS485 Modbus. Optional 4 to 20 mA or Eagle Quantum Premier output is also available. A model with pulse output is available for easy retrofitting into existing Det-Tronics controller-based systems. A multi-color LED on the detector faceplate indicates detector status condition.

The X9800 housing is available in aluminum or stainless steel, with NEMA 4X and IP66 rating. Typical applications include: turbines, petrochemical applications, automotive applications, and dirty environments.

- Eagle Quantum Premier compatible
- Unequaled false alarm rejection, TDSA
- Responds to a fire in the presence of modulated blackbody radiation
- High speed capability — 40 milliseconds
- Microprocessor-controlled heated optics for increased resistance to moisture and ice
- Automatic, manual, or magnetic optical integrity (oi) testing
- Fire, fault, and auxiliary relays standard
- 4 to 20 mA isolated output (optional)
- Pulse output for compatibility with controller-based systems (optional)
- Tricolor LED indicates normal operation, fire, and fault conditions
- IECEx, FM, CSA, ATEX/CE
- Mounting swivel allows easy sighting
- Integral wiring compartment for ease of installation
- Class A wiring per NFPA-72
- Meets NFPA-33 response requirement for under 0.5 second (available when mode selected)
- EN 54 part 10 certified by VDS
- Built-in data logging / event monitoring
- Models available with integral explosion proof camera option (xWatch)



X9800 Model Matrix

MODEL	DESCRIPTION
X9800	Single Frequency IR Flame Detector

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel (316)

TYPE	THREAD TYPE
3M	3 Port, Metric M25
3N	3 Port, 3/4" NPT
4M	4 Port, Metric M25
4N	4 Port, 3/4" NPT

TYPE	OUTPUTS
11	Relay
13	Relay and 4-20 mA
14	Eagle Quantum Premier
15	Relay and Pulse
16	Addressable Module Only (third-party type)
33	Relay and 4-20 mA / NTSC (xWatch)
34	Eagle Quantum Premier / NTSC (xWatch)
43	Relay and 4-20 mA / PAL (xWatch)
44	Eagle Quantum Premier / PAL (xWatch)

TYPE	APPROVAL AGENCY
W	FM/CSA/ATEX/CE
A	FM/CSA
R	VNIIPO/VNIIFTRI (RUSSIA)
U	TCCExEE/UKRCEPRO (UKRAINE)
Y	CCCF (CHINA)

TYPE	CLASSIFICATION*
1	Division/Zone Ex de
2	Division/Zone Ex d

*Detectors are always Class I, Div. I. See Manual

SINGLE FREQUENCY INFRARED

X9800 Single Frequency IR Flame Detector

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	FM/CSA/ ATEX/CE	Ship Weight
X9800A4N11W1	008700-XXX	AL	3/4 NPT	Relay	X		X	6 lb (2.75 kg)
X9800A4M11W1	008701-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X9800S4N11W1	008702-XXX	316 SS	3/4 NPT	Relay	X		X	10 lb (4.54 kg)
X9800S4M11W1	008703-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X9800A4N11W2	008704-XXX	AL	3/4 NPT	Relay		X	X	6 lb (2.75 kg)
X9800A4M11W2	008705-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X9800S4N11W2	008706-XXX	316 SS	3/4 NPT	Relay		X	X	10 lb (4.54 kg)
X9800S4M11W2	008707-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X9800A4N13W1	008708-XXX	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X9800A4M13W1	008709-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X9800S4N13W1	008710-XXX	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X9800S4M13W1	008711-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X9800A4N13W2	008712-XXX	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X9800A4M13W2	008713-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X9800S4N13W2	008714-XXX	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X9800S4M13W2	008715-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X9800A4N14W1	008716-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X9800A4M14W1	008717-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X9800S4N14W1	008718-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X9800S4M14W1	008719-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X9800A4N14W2	008720-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X9800A4M14W2	008721-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X9800S4N14W2	008722-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X9800S4M14W2	008723-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X9800A4N15W1	008724-XXX	AL	3/4 NPT	Pulse/Relay	X		X	6 lb (2.75 kg)
X9800A4M15W1	008725-XXX	AL	M25	Pulse/Relay	X		X	6 lb (2.75 kg)
X9800S4N15W1	008726-XXX	316 SS	3/4 NPT	Pulse/Relay	X		X	10 lb (4.54 kg)
X9800S4M15W1	008727-XXX	316 SS	M25	Pulse/Relay	X		X	10 lb (4.54 kg)
X9800A4N15W2	008728-XXX	AL	3/4 NPT	Pulse/Relay		X	X	6 lb (2.75 kg)
X9800A4M15W2	008729-XXX	AL	M25	Pulse/Relay		X	X	6 lb (2.75 kg)
X9800S4N15W2	008730-XXX	316 SS	3/4 NPT	Pulse/Relay		X	X	10 lb (4.54 kg)
X9800S4M15W2	008731-XXX	316 SS	M25	Pulse/Relay		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.
The EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting.

X9800 Single Frequency IR Flame Detector - China

Model	Part Number	Material	Threads	Output	EEx de	EEx d	CCCF China	Ship Weight
X9800A4N11Y2	008750-001	AL	3/4 NPT	Relay		X	X	6 lb (2.75 kg)
X9800A4M11Y2	008751-001	AL	M25	Relay		X	X	6 lb (2.75 kg)
X9800S4N11Y2	008752-001	316 SS	3/4 NPT	Relay		X	X	10 lb (4.54 kg)
X9800S4M11Y2	008753-001	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X9800A4N13Y2	008754-001	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X9800A4M13Y2	008755-001	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X9800S4N13Y2	008756-001	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X9800S4M13Y2	008757-001	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X9800A4N14Y2	008758-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X9800A4M14Y2	008759-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X9800S4N14Y2	008760-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X9800S4M14Y2	008761-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

X9800 Single Frequency IR Flame Detector - Russia

Model	Part Number*	Material	Threads	Output	EEx de	EEx d	VNIIPO/ VNIIFTRI Russia	Ship Weight
X9800A4M11R1	008740-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X9800S4M11R1	008741-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X9800A4M11R2	008742-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X9800S4M11R2	008743-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X9800A4M13R1	008744-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X9800S4M13R1	008745-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X9800A4M13R2	008746-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X9800S4M13R2	008747-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X9800A4M14R1	008770-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X9800S4M14R1	008771-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X9800A4M14R2	008772-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X9800S4M14R2	008773-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.
The EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting.

X9800 Single Frequency IR Flame Detector - Ukraine

Model	Part Number*	Material	Threads	Output	EEx de	EEx d	TCCExEE/ UKRCEPRO Ukraine	Ship Weight
X9800A4M11U1	008762-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X9800S4M11U1	008763-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X9800A4M11U2	008764-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X9800S4M11U2	008765-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X9800A4M13U1	008766-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X9800S4M13U1	008767-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X9800A4M13U2	008768-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X9800S4M13U2	008769-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.

X9800 Single Frequency IR Flame Detector / xWatch Camera

Model	Part Number *	Material	Threads	Output	Video	EEx d	FM/CSA	Ship Weight
X9800A3N33A2	009548-XXX	AL	3/4 NPT	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X9800A3M33A2	009549-XXX	AL	M25	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X9800S3N33A2	009550-XXX	SS	3/4 NPT	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X9800S3M33A2	009551-XXX	SS	M25	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X9800A3N43A2	009552-XXX	AL	3/4 NPT	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X9800A3M43A2	009553-XXX	AL	M25	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X9800S3N43A2	009554-XXX	SS	3/4 NPT	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X9800S3M43A2	009555-XXX	SS	M25	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X9800A3N34A2	009556-001	AL	3/4 NPT	EQP	NTSC	X	X	9 lb (4.1 kg)
X9800A3M34A2	009557-001	AL	M25	EQP	NTSC	X	X	9 lb (4.1 kg)
X9800S3N34A2	009558-001	SS	3/4 NPT	EQP	NTSC	X	X	14 lb (6.4 kg)
X9800S3M34A2	009559-001	SS	M25	EQP	NTSC	X	X	14 lb (6.4 kg)
X9800A3N44A2	009560-001	AL	3/4 NPT	EQP	PAL	X	X	9 lb (4.1 kg)
X9800A3M44A2	009561-001	AL	M25	EQP	PAL	X	X	9 lb (4.1 kg)
X9800S3N44A2	009562-001	SS	3/4 NPT	EQP	PAL	X	X	14 lb (6.4 kg)
X9800S3M44A2	009563-001	SS	M25	EQP	PAL	X	X	14 lb (6.4 kg)

*The last 3 digits of the part number identify the software configuration. Please see table B1 to choose the correct option.
The EQP detectors are completely configurable using the S3 software and are shipped defaulted to the -001 setting.

SINGLE FREQUENCY INFRARED

Table B1 - X9800 Software Part Number Configuration Matrix

Dash	IR Sensitivity	Alarm Output IR Qualification	Alarm Relay	Aux Output Function	Aux Output IR Qualification	Aux Relay	Fault Relay
-001	High	TDSA	De-Energized Non-latching	Follows Alarm	TDSA	Energized Non-latching	Energized Non-latching
-002	High	TDSA or Quick	De-Energized Non-latching	Follows Alarm	TDSA or Quick	Energized Non-latching	Energized Non-latching
-003	Very High	TDSA or Quick	De-Energized Non-latching	Follows Alarm	TDSA or Quick	Energized Non-latching	Energized Non-latching
-004	Very High	TDSA	De-Energized Non-latching	Follows Alarm	TDSA	Energized Non-latching	Energized Non-latching
-005	High	TDSA or Quick	De-Energized Non-latching	Independent	Quick	Energized Non-latching	Energized Non-latching
-006	Low	TDSA	De-Energized Non-latching	Follows Alarm	TDSA	Energized Non-latching	Energized Non-latching
-007	High	TDSA	De-Energized Latching	Follows Alarm	TDSA	De-energized Latching	Energized Non-latching
-008	High	TDSA or Quick	De-Energized Latching	Follows Alarm	TDSA or Quick	De-energized Latching	Energized Non-latching
-009	Very High	TDSA or Quick	De-Energized Latching	Follows Alarm	TDSA or Quick	De-energized Latching	Energized Non-latching
-010	Very High	TDSA	De-Energized Latching	Follows Alarm	TDSA	De-energized Latching	Energized Non-latching
-011	High	TDSA or Quick	De-Energized Latching	Independent	Quick	De-energized Latching	Energized Non-latching
-012	Low	TDSA	De-Energized Latching	Follows Alarm	TDSA	De-energized Latching	Energized Non-latching

TDSA = "Time Domain Signal Analysis" patented signal processing algorithm for superior IR false alarm rejection.
Quick = Signal processing for explosive IR events.

Application Recommendations

These are typical industry application settings. They may not be applicable to all installations. Contact factory for application guidance.

General Duty	001
Offshore	001
Compressor	002
High Speed	003
Hangar	004
Automotive	005
Turbine	006

Note: Latching relays cannot be used in voted systems.

NOTES

ULTRAVIOLET/INFRARED

X5200 UVIR Flame Detector

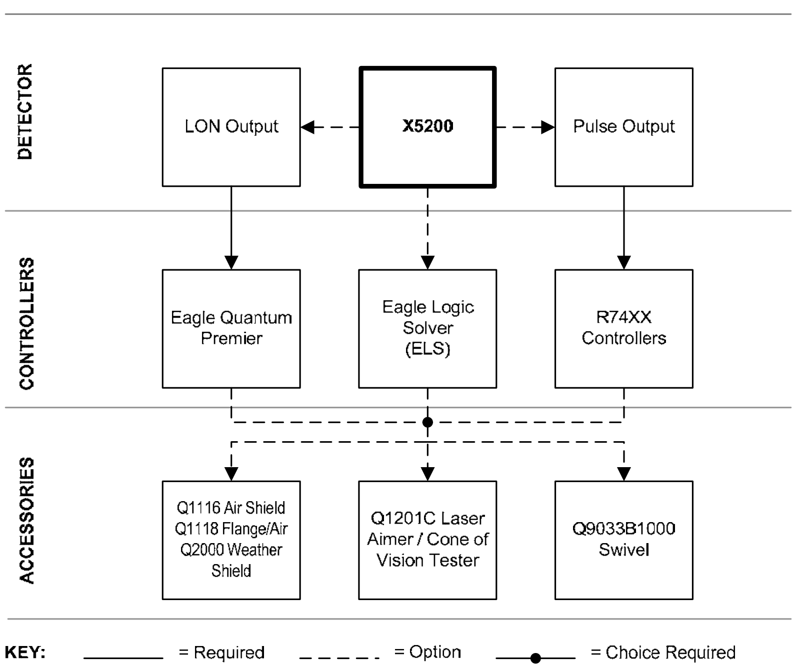


X5200 UVIR Flame Detector (Spec Sheet: 90-1156) meets the most stringent requirements worldwide with advanced high speed detection capabilities and immunity to extraneous sources, combined with a superior mechanical design. The combination of Arc rejection on the UV sensor and TDSA/Quick on the IR sensor make this detector the highest false alarm immune UVIR available. The mounting arrangement allows the UV and IR sensors to monitor the same hazardous location with a 90-degree cone of vision. When both sensors simultaneously detect the presence of a flame, an alarm signal is generated. The detector has Division and Zone explosion-proof ratings and is suitable for use in indoor and outdoor applications.

The standard output configuration includes fire, fault, and auxiliary relays and RS485 Modbus. Optional 4 to 20 mA or Eagle Quantum Premier output is also available. A model with pulse output is available for easy retrofitting into existing Det-Tronics controller based systems. A multi-color LED on the detector faceplate indicates detector status condition.

The X5200 housing is available in aluminum or stainless steel, with NEMA 4X and IP66 rating. Typical applications include: Hangars, munitions, petrochemical applications, and turbines.

- Eagle Quantum Premier and Eagle Quantum compatible
- Patented signal processing, TDSA, Arc
- A new level of false alarm rejection
- Responds to a fire in the presence of modulated blackbody radiation (i.e., heaters, ovens, turbines) without false alarm
- High-speed capability
- Microprocessor-controlled heated optics for increased resistance to moisture and ice
- Automatic, manual, or magnetic optical integrity (oi) testing
- Fire, fault, and auxiliary relays standard
- 4 to 20 mA isolated output (optional)
- Pulse output for compatibility with controller-based systems (optional)
- IECEx, FM, CSA, ATEX/CE
- Integral wiring compartment for ease of installation
- Class A wiring per NFPA-72
- EN 54 part 10 certified by VDS
- EMI, RFI, EMC Directive Compliant
- Built-in data logging / event monitoring
- Meets NFPA 33 Response requirement for under 0.5 second (when model selected)
- Models available with integral explosion proof camera option (xWatch)



X5200 Model Matrix

MODEL	DESCRIPTION
X5200	UVIR Flame Detector
X5200M+	UVIR Flame Detector with Molybdenum Tube

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel (316)

TYPE	THREAD TYPE
3M	3 Port, Metric M25
3N	3 Port, 3/4" NPT
4M	4 Port, Metric M25
4N	4 Port, 3/4" NPT

TYPE	OUTPUTS
11	Relay
13	Relay and 4-20 mA
14	Eagle Quantum Premier
24	Eagle Quantum
15	Relay and Pulse
16	Addressable Module Only (third-party type)
33	Relay and 4-20 mA / NTSC (xWatch)
34	Eagle Quantum Premier / NTSC (xWatch)
43	Relay and 4-20 mA / PAL (xWatch)
44	Eagle Quantum Premier / PAL (xWatch)

TYPE	APPROVAL AGENCY
W	FM/CSA/ATEX/CE
A	FM/CSA
R	VNIIPO/VNIIFTRI (RUSSIA)
U	TCCExEE/UKRCEPRO (UKRAINE)
Y	CCCF (CHINA)

TYPE	CLASSIFICATION*
1	Division/Zone Ex de
2	Division/Zone Ex d

+Special Application - consult factory before ordering.
*Detectors are always Class I, Div. 1. See Manual.

ULTRAVIOLET/INFRARED

X5200 UVIR Flame Detector

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	FM/CSA/ ATEX/CE	Ship Weight
X5200A4N11W1	008500-XXX	AL	3/4 NPT	Relay	X		X	6 lb (2.75 kg)
X5200A4M11W1	008501-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X5200S4N11W1	008502-XXX	316 SS	3/4 NPT	Relay	X		X	10 lb (4.54 kg)
X5200S4M11W1	008503-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X5200A4N11W2	008504-XXX	AL	3/4 NPT	Relay		X	X	6 lb (2.75 kg)
X5200A4M11W2	008505-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X5200S4N11W2	008506-XXX	316 SS	3/4 NPT	Relay		X	X	10 lb (4.54 kg)
X5200S4M11W2	008507-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X5200A4N13W1	008508-XXX	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X5200A4M13W1	008509-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X5200S4N13W1	008510-XXX	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X5200S4M13W1	008511-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X5200A4N13W2	008512-XXX	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200A4M13W2	008513-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200S4N13W2	008514-XXX	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X5200S4M13W2	008515-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X5200A4N14W1	008516-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X5200A4M14W1	008517-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X5200S4N14W1	008518-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X5200S4M14W1	008519-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X5200A4N14W2	008520-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X5200A4M14W2	008521-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X5200S4N14W2	008522-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X5200S4M14W2	008523-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X5200A4N15W1	008524-XXX	AL	3/4 NPT	Pulse/Relay	X		X	6 lb (2.75 kg)
X5200A4M15W1	008525-XXX	AL	M25	Pulse/Relay	X		X	6 lb (2.75 kg)
X5200S4N15W1	008526-XXX	316 SS	3/4 NPT	Pulse/Relay	X		X	10 lb (4.54 kg)
X5200S4M15W1	008527-XXX	316 SS	M25	Pulse/Relay	X		X	10 lb (4.54 kg)
X5200A4N15W2	008528-XXX	AL	3/4 NPT	Pulse/Relay		X	X	6 lb (2.75 kg)
X5200A4M15W2	008529-XXX	AL	M25	Pulse/Relay		X	X	6 lb (2.75 kg)
X5200S4N15W2	008530-XXX	316 SS	3/4 NPT	Pulse/Relay		X	X	10 lb (4.54 kg)
X5200S4M15W2	008531-XXX	316 SS	M25	Pulse/Relay		X	X	10 lb (4.54 kg)
X5200A4N24W1	008556-001	AL	3/4 NPT	Eagle Quantum	X		X	6 lb (2.75 kg)
X5200A4M24W1	008557-001	AL	M25	Eagle Quantum	X		X	6 lb (2.75 kg)
X5200S4N24W1	008558-001	316 SS	3/4 NPT	Eagle Quantum	X		X	10 lb (4.54 kg)
X5200S4M24W1	008559-001	316 SS	M25	Eagle Quantum	X		X	10 lb (4.54 kg)
X5200A4N24W2	008560-001	AL	3/4 NPT	Eagle Quantum		X	X	6 lb (2.75 kg)
X5200A4M24W2	008561-001	AL	M25	Eagle Quantum		X	X	6 lb (2.75 kg)
X5200S4N24W2	008562-001	316 SS	3/4 NPT	Eagle Quantum		X	X	10 lb (4.54 kg)
X5200S4M24W2	008563-001	316 SS	M25	Eagle Quantum		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.
The EQ and EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

X5200 UVIR Flame Detector - China

Model	Part Number	Material	Threads	Output	EEx de	EEx d	CCCF China	Ship Weight
X5200A4N11Y2	008580-001	AL	3/4 NPT	Relay		X	X	6 lb (2.75 kg)
X5200A4M11Y2	008581-001	AL	M25	Relay		X	X	6 lb (2.75 kg)
X5200S4N11Y2	008582-001	316 SS	3/4 NPT	Relay		X	X	10 lb (4.54 kg)
X5200S4M11Y2	008583-001	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X5200A4N13Y2	008584-001	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200A4M13Y2	008585-001	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200S4N13Y2	008586-001	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X5200S4M13Y2	008587-001	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X5200A4N14Y2	008588-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X5200A4M14Y2	008589-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X5200S4N14Y2	008590-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X5200S4M14Y2	008591-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

X5200 UVIR Flame Detector - Russia

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	VNIIPO/ VNIIFTRI Russia	Ship Weight
X5200A4M11R1	008564-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X5200S4M11R1	008565-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X5200A4M11R2	008566-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X5200S4M11R2	008567-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X5200A4M13R1	008568-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X5200S4M13R1	008569-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X5200A4M13R2	008570-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200S4M13R2	008571-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X5200A4M14R1	008600-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X5200S4M14R1	008601-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X5200A4M14R2	008602-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X5200S4M14R2	008603-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.
The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

X5200 UVIR Flame Detector - Ukraine

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	TCCExEE/ UKRCEPRO Ukraine	Ship Weight
X5200A4M11U1	008572-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X5200S4M11U1	008573-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X5200A4M11U2	008574-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X5200S4M11U2	008575-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X5200A4M13U1	008576-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X5200S4M13U1	008577-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X5200A4M13U2	008578-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200S4M13U2	008579-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.

ULTRAVIOLET/INFRARED

X5200M UVIR Flame Detector - Moly

Model	Part Number	Material	Threads	Output	EEx de	EEx d	FM/CSA/ ATEX/CE	Ship Weight
X5200MA4N13W1	008540-013	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X5200MA4M13W1	008541-013	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X5200MS4N13W1	008542-013	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X5200MS4M13W1	008543-013	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X5200MA4N13W2	008544-013	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200MA4M13W2	008545-013	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X5200MS4N13W2	008546-013	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X5200MS4M13W2	008547-013	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X5200MA4N14W1	008592-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X5200MA4M14W1	008593-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X5200MS4N14W1	008594-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X5200MS4M14W1	008595-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X5200MA4N14W2	008596-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X5200MA4M14W2	008597-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X5200MS4N14W2	008598-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X5200MS4M14W2	008599-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X5200MA4N15W1	008548-013	AL	3/4 NPT	Pulse/Relay	X		X	6 lb (2.75 kg)
X5200MA4M15W1	008549-013	AL	M25	Pulse/Relay	X		X	6 lb (2.75 kg)
X5200MS4N15W1	008550-013	316 SS	3/4 NPT	Pulse/Relay	X		X	10 lb (4.54 kg)
X5200MS4M15W1	008551-013	316 SS	M25	Pulse/Relay	X		X	10 lb (4.54 kg)
X5200MA4N15W2	008552-013	AL	3/4 NPT	Pulse/Relay		X	X	6 lb (2.75 kg)
X5200MA4M15W2	008553-013	AL	M25	Pulse/Relay		X	X	6 lb (2.75 kg)
X5200MS4N15W2	008554-013	316 SS	3/4 NPT	Pulse/Relay		X	X	10 lb (4.54 kg)
X5200MS4M15W2	008555-013	316 SS	M25	Pulse/Relay		X	X	10 lb (4.54 kg)

X5200 UVIR Flame Detector / xWatch Camera

Model	Part Number *	Material	Threads	Output	Video	EEx d	FM/CSA	Ship Weight
X5200A3N33A2	009532-XXX	AL	3/4 NPT	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X5200A3M33A2	009533-XXX	AL	M25	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X5200S3N33A2	009534-XXX	SS	3/4 NPT	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X5200S3M33A2	009535-XXX	SS	M25	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X5200A3N43A2	009536-XXX	AL	3/4 NPT	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X5200A3M43A2	009537-XXX	AL	M25	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X5200S3N43A2	009538-XXX	SS	3/4 NPT	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X5200S3M43A2	009539-XXX	SS	M25	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X5200A3N34A2	009540-001	AL	3/4 NPT	EQP	NTSC	X	X	9 lb (4.1 kg)
X5200A3M34A2	009541-001	AL	M25	EQP	NTSC	X	X	9 lb (4.1 kg)
X5200S3N34A2	009542-001	SS	3/4 NPT	EQP	NTSC	X	X	14 lb (6.4 kg)
X5200S3M34A2	009543-001	SS	M25	EQP	NTSC	X	X	14 lb (6.4 kg)
X5200A3N44A2	009544-001	AL	3/4 NPT	EQP	PAL	X	X	9 lb (4.1 kg)
X5200A3M44A2	009545-001	AL	M25	EQP	PAL	X	X	9 lb (4.1 kg)
X5200S3N44A2	009546-001	SS	3/4 NPT	EQP	PAL	X	X	14 lb (6.4 kg)
X5200S3M44A2	009547-001	SS	M25	EQP	PAL	X	X	14 lb (6.4 kg)

*The last 3 digits of the part number identify the software configuration. Please see table C1 to choose the correct option.
The EQP detectors are completely configurable using the S3 configuration software and are shipped defaulted to the -001 setting.

Table C1 - X5200 Software Part Number Configuration Matrix

Dash	UV Sensitivity	Arc Rejection	IR Sensitivity	Alarm Output IR Qualifications	Alarm Relay	Aux Output Function	Aux Output IR Qualifications	Aux Relay	Fault Relay
-001	High	High	High	TDSA Only	De-Energized Non-latching	Follows Alarm	TDSA	Energized Non-latching	Energized Non-latching
-002	High	Very High	High	TDSA or Quick	De-Energized Non-latching	Follows Alarm	TDSA or Quick	Energized Non-latching	Energized Non-latching
-003	High	Off	Very High	TDSA or Quick	De-Energized Non-latching	UV or IR	TDSA	Energized Non-latching	Energized Non-latching
-004	High	High	Very High	TDSA Only	De-Energized Non-latching	Pre-Alarm	TDSA	Energized Non-latching	Energized Non-latching
-005	Medium	High	High	TDSA or Quick	De-Energized Non-latching	UV or IR	TDSA	Energized Non-latching	Energized Non-latching
-006	High	High	Low	TDSA Only	De-Energized Non-latching	Pre-Alarm	TDSA	Energized Non-latching	Energized Non-latching
-007	High	High	High	TDSA Only	De-Energized Latching	Follows Alarm	TDSA	De-energized Latching	Energized Non-latching
-008	High	Very High	High	TDSA or Quick	De-Energized Latching	Follows Alarm	TDSA or Quick	De-energized Latching	Energized Non-latching
-009	High	Off	Very High	TDSA or Quick	De-Energized Latching	UV or IR	TDSA	De-energized Latching	Energized Non-latching
-010	High	High	Very High	TDSA Only	De-Energized Latching	Pre-Alarm	TDSA	De-energized Latching	Energized Non-latching
-011	Medium	High	High	TDSA or Quick	De-Energized Latching	UV or IR	TDSA	De-energized Latching	Energized Non-latching
-012	High	High	Low	TDSA Only	De-Energized Latching	Pre-Alarm	TDSA	De-energized Latching	Energized Non-latching
-013*	High	Off	High	TDSA or Quick	De-Energized Non-Latching	Follows Alarm	TDSA or Quick	Energized Non-Latching	Energized Non-latching
-014*	High	Off	High	TDSA or Quick	De-Energized Latching	Follows Alarm	TDSA or Quick	De-energized Latching	Energized Non-latching
-015	Very High	Low	Very High	TDSA or Quick	De-Energized Non-Latching	Follows Alarm	TDSA or Quick	Energized Non-Latching	Energized Non-latching
-016	Very High	Low	Very High	TDSA or Quick	De-Energized Latching	Follows Alarm	TDSA or Quick	De-energized Latching	Energized Non-latching

*Available only on the X5200M model

Arc Rejection = An algorithm that prevents false alarms from transient UV sources.
TDSA = "Time Domain Signal Analysis" Patented signal processing algorithm for superior IR false alarm rejection.
Quick = Signal processing for explosive IR events.

Application Recommendations

These are typical industry application settings. They may not be applicable to all installations. Contact factory for application guidance.

General Duty	001
Offshore	001
Compressor	002
High Speed	003
Hangar	004
Automotive	005
Turbine	006

Note: Latching relays cannot be used in voted systems.

ULTRAVIOLET

X2200 UV Flame Detector

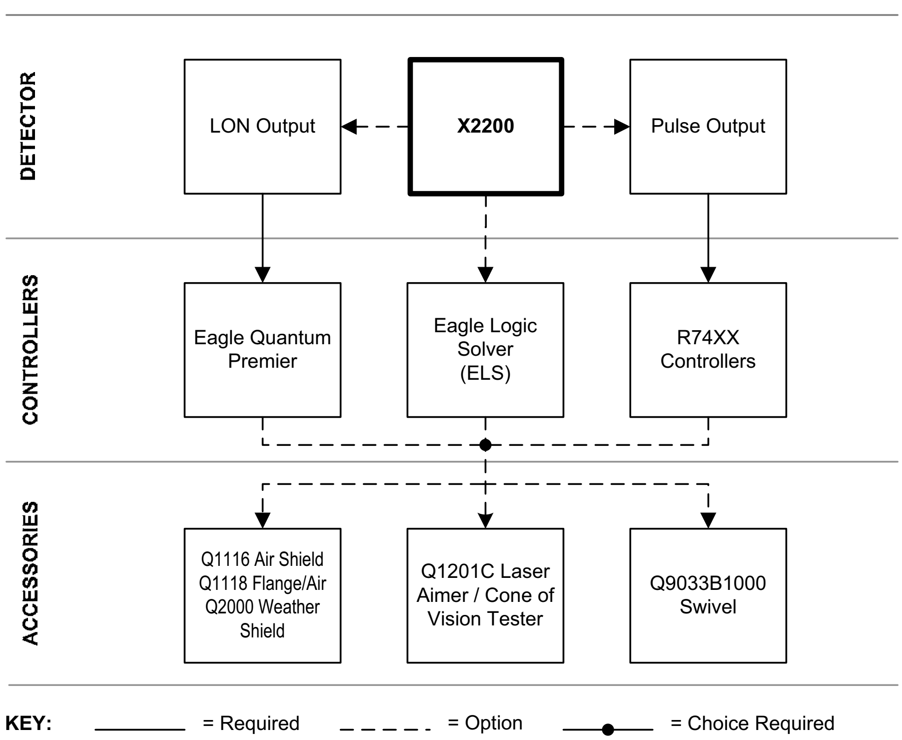


X2200 UV Flame Detector (Spec Sheet: 90-1157) meets the most stringent requirements worldwide with advanced signal processing and immunity to extraneous sources, combined with high speed capability. The detector is equipped with both automatic and manual oi test capability. The detector has Division and Zone explosion-proof ratings and is suitable for use in a variety of applications.

The standard output configuration includes fire, fault, and auxiliary relays and RS485 Modbus. Optional 4 to 20 mA or Eagle Quantum Premier output also available. A model with pulse output is available for easy retrofitting into existing Det-Tronics controller based systems. A multi-color LED on the detector faceplate indicates detector status condition.

The X2200 housing is available in aluminum or stainless steel, with NEMA 4X and IP66 rating. Typical applications include: hydrogen storage, munitions, and silane storage.

- Eagle Quantum Premier and Eagle Quantum compatible
- Advanced signal processing
- Unequaled false alarm rejection, Arc
- Responds to a fire in the presence of modulated blackbody radiation without false alarm
- High-speed capability
- Automatic, manual, or magnetic optical integrity (oi) testing
- Fire, fault, and auxiliary relays standard
- 4 to 20 mA isolated output (optional)
- Pulse output for compatibility with controller-based systems (optional)
- IECEx, FM, CSA, ATEX/CE
- Tricolor LED indicates normal operation, fire, and fault conditions
- Mounting swivel allows easy sighting
- Integral wiring compartment for ease of installation
- Class A wiring per NFPA-72
- Meets NFPA-33 response requirement for under 0.5 second (available when model selected)
- EN 54 part 10 certified by VDS
- EMI, RFI, EMC Directive Compliant
- Built-in data logging / event monitoring
- Models available with integral explosion proof camera option (xWatch)



X2200 Model Matrix

MODEL	DESCRIPTION
X2200	UV Flame Detector
X2200M+	UV Flame Detector w/Molybdenum Tube

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel (316)

TYPE	THREAD TYPE
3M	3 Port, Metric M25
3N	3 Port, 3/4" NPT
4M	4 Port, Metric M25
4N	4 Port, 3/4" NPT

TYPE	OUTPUTS
11	Relay
13	Relay and 4-20 mA
14	Eagle Quantum Premier
24	Eagle Quantum
15	Relay and Pulse
16	Addressable Module Only (third-party type)
33	Relay and 4-20 mA / NTSC (xWatch)
34	Eagle Quantum Premier / NTSC (xWatch)
43	Relay and 4-20 mA / PAL (xWatch)
44	Eagle Quantum Premier / PAL (xWatch)

TYPE	APPROVAL AGENCY
W	FM/CSA/ATEX/CE
A	FM/CSA
R	VNIIPO/VNIIFTRI (RUSSIA)
U	TCCExEE/UKRCEPRO (UKRAINE)

TYPE	CLASSIFICATION*
1	Division/Zone EEx de
2	Division/Zone EEx d

+Special Application - consult factory before ordering.
*Detectors are always Class I, Div. 1. See Manual.

ULTRAVIOLET

X2200 UV Flame Detector

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	FM/CSA/ ATEX/CE	Ship Weight
X2200A4N11W1	008300-XXX	AL	3/4 NPT	Relay	X		X	6 lb (2.75 kg)
X2200A4M11W1	008301-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X2200S4N11W1	008302-XXX	316 SS	3/4 NPT	Relay	X		X	10 lb (4.54 kg)
X2200S4M11W1	008303-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X2200A4N11W2	008304-XXX	AL	3/4 NPT	Relay		X	X	6 lb (2.75 kg)
X2200A4M11W2	008305-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X2200S4N11W2	008306-XXX	316 SS	3/4 NPT	Relay		X	X	10 lb (4.54 kg)
X2200S4M11W2	008307-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X2200A4N13W1	008308-XXX	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X2200A4M13W1	008309-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X2200S4N13W1	008310-XXX	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X2200S4M13W1	008311-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X2200A4N13W2	008312-XXX	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X2200A4M13W2	008313-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X2200S4N13W2	008314-XXX	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X2200S4M13W2	008315-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X2200A4N14W1	008316-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X2200A4M14W1	008317-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X2200S4N14W1	008318-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X2200S4M14W1	008319-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X2200A4N14W2	008320-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X2200A4M14W2	008321-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X2200S4N14W2	008322-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X2200S4M14W2	008323-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X2200A4N15W1	008324-XXX	AL	3/4 NPT	Pulse/Relay	X		X	6 lb (2.75 kg)
X2200A4M15W1	008325-XXX	AL	M25	Pulse/Relay	X		X	6 lb (2.75 kg)
X2200S4N15W1	008326-XXX	316 SS	3/4 NPT	Pulse/Relay	X		X	10 lb (4.54 kg)
X2200S4M15W1	008327-XXX	316 SS	M25	Pulse/Relay	X		X	10 lb (4.54 kg)
X2200A4N15W2	008328-XXX	AL	3/4 NPT	Pulse/Relay		X	X	6 lb (2.75 kg)
X2200A4M15W2	008329-XXX	AL	M25	Pulse/Relay		X	X	6 lb (2.75 kg)
X2200S4N15W2	008330-XXX	316 SS	3/4 NPT	Pulse/Relay		X	X	10 lb (4.54 kg)
X2200S4M15W2	008331-XXX	316 SS	M25	Pulse/Relay		X	X	10 lb (4.54 kg)
X2200A4N24W1	008356-001	AL	3/4 NPT	Eagle Quantum	X		X	6 lb (2.75 kg)
X2200A4M24W1	008357-001	AL	M25	Eagle Quantum	X		X	6 lb (2.75 kg)
X2200S4N24W1	008358-001	316 SS	3/4 NPT	Eagle Quantum	X		X	10 lb (4.54 kg)
X2200S4M24W1	008359-001	316 SS	M25	Eagle Quantum	X		X	10 lb (4.54 kg)
X2200A4N24W2	008360-001	AL	3/4 NPT	Eagle Quantum		X	X	6 lb (2.75 kg)
X2200A4M24W2	008361-001	AL	M25	Eagle Quantum		X	X	6 lb (2.75 kg)
X2200S4N24W2	008362-001	316 SS	3/4 NPT	Eagle Quantum		X	X	10 lb (4.54 kg)
X2200S4M24W2	008363-001	316 SS	M25	Eagle Quantum		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.
The EQ and EQP detectors are completely configurable using the configuration software and are shipped defaulted to the -001 setting.

X2200 UV Flame Detector - Russia

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	VNIIPO/ VNIIFTRI Russia	Ship Weight
X2200A4M11R1	008364-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X2200S4M11R1	008365-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X2200A4M11R2	008366-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X2200S4M11R2	008367-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X2200A4M13R1	008368-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X2200S4M13R1	008369-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X2200A4M13R2	008370-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X2200S4M13R2	008371-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X2200A4M14R1	008388-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X2200S4M14R1	008389-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X2200A4M14R2	008390-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X2200S4M14R2	008391-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.
The EQP detectors are completely configurable using the configuration software and are shipped defaulted to the -001 setting.

X2200 UV Flame Detector - Ukraine

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	TCCExEE/ UKRCEPRO Ukraine	Ship Weight
X2200A4M11U1	008380-XXX	AL	M25	Relay	X		X	6 lb (2.75 kg)
X2200S4M11U1	008381-XXX	316 SS	M25	Relay	X		X	10 lb (4.54 kg)
X2200A4M11U2	008382-XXX	AL	M25	Relay		X	X	6 lb (2.75 kg)
X2200S4M11U2	008383-XXX	316 SS	M25	Relay		X	X	10 lb (4.54 kg)
X2200A4M13U1	008384-XXX	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X2200S4M13U1	008385-XXX	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X2200A4M13U2	008386-XXX	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X2200S4M13U2	008387-XXX	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.

X2200M UV Flame Detector - Moly

Model	Part Number	Material	Threads	Output	EEx de	EE xd	FM/CSA/ ATEX/CE	Ship Weight
X2200MA4N13W1	008340-013	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X2200MA4M13W1	008341-013	AL	M25	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X2200MS4N13W1	008342-013	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X2200MS4M13W1	008343-013	316 SS	M25	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X2200MA4N13W2	008344-013	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X2200MA4M13W2	008345-013	AL	M25	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X2200MS4N13W2	008346-013	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X2200MS4M13W2	008347-013	316 SS	M25	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X2200MA4N14W1	008372-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X2200MA4M14W1	008373-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X2200MS4N14W1	008374-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X2200MS4M14W1	008375-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X2200MA4N14W2	008376-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X2200MA4M14W2	008377-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X2200MS4N14W2	008378-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X2200MS4M14W2	008379-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)
X2200MA4N15W1	008348-013	AL	3/4 NPT	Pulse/Relay	X		X	6 lb (2.75 kg)
X2200MA4M15W1	008349-013	AL	M25	Pulse/Relay	X		X	6 lb (2.75 kg)
X2200MS4N15W1	008350-013	316 SS	3/4 NPT	Pulse/Relay	X		X	10 lb (4.54 kg)
X2200MS4M15W1	008351-013	316 SS	M25	Pulse/Relay	X		X	10 lb (4.54 kg)
X2200MA4N15W2	008352-013	AL	3/4 NPT	Pulse/Relay		X	X	6 lb (2.75 kg)
X2200MA4M15W2	008353-013	AL	M25	Pulse/Relay		X	X	6 lb (2.75 kg)
X2200MS4N15W2	008354-013	316 SS	3/4 NPT	Pulse/Relay		X	X	10 lb (4.54 kg)
X2200MS4M15W2	008355-013	316 SS	M25	Pulse/Relay		X	X	10 lb (4.54 kg)

ULTRAVIOLET

X2200 UV Flame Detector / xWatch Camera

Model	Part Number *	Material	Threads	Output	Video	EEx d	FM/CSA	Ship Weight
X2200A3N33A2	009564-XXX	AL	3/4 NPT	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X2200A3M33A2	009565-XXX	AL	M25	Relay/4-20	NTSC	X	X	9 lb (4.1 kg)
X2200S3N33A2	009566-XXX	SS	3/4 NPT	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X2200S3M33A2	009567-XXX	SS	M25	Relay/4-20	NTSC	X	X	14 lb (6.4 kg)
X2200A3N43A2	009568-XXX	AL	3/4 NPT	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X2200A3M43A2	009569-XXX	AL	M25	Relay/4-20	PAL	X	X	9 lb (4.1 kg)
X2200S3N43A2	009570-XXX	SS	3/4 NPT	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X2200S3M43A2	009571-XXX	SS	M25	Relay/4-20	PAL	X	X	14 lb (6.4 kg)
X2200A3N34A2	009572-001	AL	3/4 NPT	EQP	NTSC	X	X	9 lb (4.1 kg)
X2200A3M34A2	009573-001	AL	M25	EQP	NTSC	X	X	9 lb (4.1 kg)
X2200S3N34A2	009574-001	SS	3/4 NPT	EQP	NTSC	X	X	14 lb (6.4 kg)
X2200S3M34A2	009575-001	SS	M25	EQP	NTSC	X	X	14 lb (6.4 kg)
X2200A3N44A2	009576-001	AL	3/4 NPT	EQP	PAL	X	X	9 lb (4.1 kg)
X2200A3M44A2	009577-001	AL	M25	EQP	PAL	X	X	9 lb (4.1 kg)
X2200S3N44A2	009578-001	SS	3/4 NPT	EQP	PAL	X	X	14 lb (6.4 kg)
X2200S3M44A2	009579-001	SS	M25	EQP	PAL	X	X	14 lb (6.4 kg)

*The last 3 digits of the part number identify the software configuration. Please see table D1 to choose the correct option.
The EQP detectors are completely configurable using the configuration software and are shipped defaulted to the -001 setting.

NOTES

Table D1 - X2200 Software Part Number Configuration Matrix

Dash	UV Sensitivity	Arc Rejection	Alarm Relay	Aux Output Function	Aux Relay	Fault Relay
-001	High	High	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-002	High	Very High	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-003	High	Off	De-Energized Non-latching	Pre-Alarm	Energized Non-latching	Energized Non-latching
-005	Medium	High	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-006	High	High	De-Energized Non-latching	Pre-Alarm	Energized Non-latching	Energized Non-latching
-007	High	High	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
-008	High	Very High	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
-009	High	Off	De-Energized Latching	Pre-Alarm	De-energized Latching	Energized Non-latching
-010	Medium	High	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
011	High	High	De-Energized Latching	Pre-Alarm	De-energized Latching	Energized Non-latching
-013*	High	Off	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-014*	High	Off	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching
-015	Very High	Low	De-Energized Non-latching	Follows Alarm	Energized Non-latching	Energized Non-latching
-016	Very High	Low	De-Energized Latching	Follows Alarm	De-energized Latching	Energized Non-latching

*Available only on the X2200M model

Arc Rejection = an algorithm that prevents false alarms from transient UV sources.

Application Recommendations

These are typical industry application settings. They may not be applicable to all installations. Contact factory for application guidance.

General Duty	001
Offshore	001
Compressor	002
High Speed	003
Automotive	005
Turbine	006

Note: Latching relays cannot be used in voted systems.

X-SERIES FLAME DETECTOR ACCESSORIES

X-Series Flame Detector Accessories

X-Series Flame Detector Sensor Modules

Model	Part Number *	Material	EEx de	EE xd	FM/CSA/ ATEX/CE	Ship Weight
X3301 Sensor Mod	007752-XXX	AL	X		X	2 lb (0.9 kg)
X3301 Sensor Mod	007753-XXX	AL		X	X	2 lb (0.9 kg)
X3301 Sensor Mod	007754-XXX	316 SS	X		X	4 lb (1.8 kg)
X3301 Sensor Mod	007755-XXX	316 SS		X	X	4 lb (1.8 kg)
X3301 Sensor Mod	007752-005**	AL	X		X	2 lb (0.9 kg)
X3301 Sensor Mod	007753-005**	AL		X	X	2 lb (0.9 kg)
X3301 Sensor Mod	007754-005**	316 SS	X		X	4 lb (1.8 kg)
X3301 Sensor Mod	007755-005**	316 SS		X	X	4 lb (1.8 kg)
X3302 Sensor Mod	008992-002	AL	X		X	2 lb (0.9 kg)
X3302 Sensor Mod	008993-002	AL		X	X	2 lb (0.9 kg)
X3302 Sensor Mod	008994-002	316 SS	X		X	4 lb (1.8 kg)
X3302 Sensor Mod	008995-002	316 SS		X	X	4 lb (1.8 kg)
X5200 Sensor Mod	007756-XXX	AL	X		X	2 lb (0.9 kg)
X5200 Sensor Mod	007757-XXX	AL		X	X	2 lb (0.9 kg)
X5200 Sensor Mod	007758-XXX	316 SS	X		X	4 lb (1.8 kg)
X5200 Sensor Mod	007759-XXX	316 SS		X	X	4 lb (1.8 kg)
X9800 Sensor Mod	007760-XXX	AL	X		X	2 lb (0.9 kg)
X9800 Sensor Mod	007761-XXX	AL		X	X	2 lb (0.9 kg)
X9800 Sensor Mod	007762-XXX	316 SS	X		X	4 lb (1.8 kg)
X9800 Sensor Mod	007763-XXX	316 SS		X	X	4 lb (1.8 kg)
X2200 Sensor Mod	007764-XXX	AL	X		X	2 lb (0.9 kg)
X2200 Sensor Mod	007765-XXX	AL		X	X	2 lb (0.9 kg)
X2200 Sensor Mod	007766-XXX	316 SS	X		X	4 lb (1.8 kg)
X2200 Sensor Mod	007767-XXX	316 SS		X	X	4 lb (1.8 kg)

*The last 3 digits of the part number identify the software configuration.
**Designates Automotive output.

X-Series Flame Detector EMI Output Boards

Description	Part Number	Ship Weight
EMI/Relay/4-20 Board (X-Series)	007308-001	<1 lb (<0.45 kg)
EMI/Pulse/Relay Board (X-Series)	007308-002	<1 lb (<0.45 kg)
EMI/EQP Board (X-Series)	007308-003	<1 lb (<0.45 kg)
EMI/EQ Retrofit Board (X2200 and X5200 only)	007308-004	<1 lb (<0.45 kg)
EMI/Relay/4-20/HART Board (X3301 and X3302)	007308-005	<1 lb (<0.45 kg)
EMI/Automotive Board (X3301)	007308-006	<1 lb (<0.45 kg)

X-Series Flame Detector Misc. Accessories

Model and/or Description	Part Number	Material	Ship Weight
Converter RS485 to RS232	000511-029		<1 lb (<0.45 kg)
W6300B1002 Inspector Connector (Inspector Monitor software included)	007819-001		<1 lb (<0.45 kg)
Inspector Monitor CD	009207-001		<1 lb (<0.45 kg)
Model 375 HART Communicator	103346-007		7.5 lb (3.4 kg)
Magnet	102740-002		<1 lb (<0.45 kg)
Magnet and Adapter for Extension Pole	008082-001		<1 lb (<0.45 kg)
Magnet and Extension Pole	007739-001		<1 lb (<0.45 kg)
oi kit (5 plates) with Inspector Connector and Monitor X3301	009208-001		<1 lb (<0.45 kg)
oi kit (5 plates) with Inspector Connector and Monitor X3302	009208-003		<1 lb (<0.45 kg)
oi kit (5 plates) with Inspector Connector and Monitor X52/X22/X98	009208-002		<1 lb (<0.45 kg)
oi plate for X3301 (requires inspector connector to calibrate)	007307-001		<1 lb (<0.45 kg)
oi plate for X3302 (requires inspector connector to calibrate)	007307-003		<1 lb (<0.45 kg)
oi plate for X52/X22/X98 (requires inspector connector to calibrate)	007307-002		<1 lb (<0.45 kg)
Q1116A1001, Air Shield	007240-001	AL	1.5 lb (0.7 kg)
Q1118A1001 Air Shield/Flange Mount	007818-001	AL	2 lb (0.9 kg)
Q1118S1001 Air Shield/Flange Mount	007818-002	SS	6 lb (2.75 kg)
Q1120A1001 Paint shield mounting ring	009177-001	AL	<1 lb (<0.45 kg)
Q1198A1001 Dual Air Shield/Flange Mount (X9800 only)	009199-001	AL	4 lb (1.8 kg)
Q1201 Laser	006097-001		<1 lb (<0.45 kg)
Laser Battery, 3V Lithium (laser)	102871-001		<1 lb (<0.45 kg)
Q1201C1001 X-Series Laser Holder	007255-001	AL/Plastic	1.5 lb (0.7 kg)
Q2000A1001 X-Series Weather Shield	007338-001	AL	1 lb (0.45 kg)
Q2033A10R X3301/X3302 FOV Limiter 10°	007338-010	AL	1 lb (0.45 kg)
Q2033A20R X3301/X3302 FOV Limiter 20°	007338-020	AL	1 lb (0.45 kg)
Q2033A30R X3301/X3302 FOV Limiter 30°	007338-030	AL	1 lb (0.45 kg)
Spare Restrictor Plate 10°	007912-010	AL	<1 lb (<0.45 kg)
Spare Restrictor Plate 20°	007912-020	AL	<1 lb (<0.45 kg)
Spare Restrictor Plate 30°	007912-030	AL	<1 lb (<0.45 kg)
Q9033B1000 Swivel Assembly	007290-001	SS	14 lb (6.4 kg)
Q9033A1000 Swivel Assembly	007290-002	AL	6 lb (2.75 kg)
Stop Plug, AL, IP66, EEx de, M25	103517-001	AL	<1 lb (<0.45 kg)
Stop Plug, SS, IP66, EEx de, M25	101197-003	SS	<1 lb (<0.45 kg)
14mm Hex Wrench	103363-001	Steel	<1 lb (<0.45 kg)
Screwdriver	103406-001		<1 lb (<0.45 kg)
O-ring - Rear Cover	107427-040	Viton	<1 lb (<0.45 kg)
1 oz grease for detectors (non-silicon)	005003-001		<1 lb (<0.45 kg)
Window cleaner (6 pack)	001680-001		<1 lb (<0.45 kg)

Upgrade Parts for Controllers when Converting to Pulse Output Models X3301, X9800, X5200 or X2200

Model	Part Number	STAR	Description	Ctrlr	Pin Chip	Replaces	Ship Weight
DE4431-001	004431-001		Auto. oi and No. 3 Detector monitor board*	R7302 R7303	N/A	N/A	1 lb (0.45 kg)
DE2267-025	004101-025		EPROM	R7404	28	002267-025	0.5 lb (0.23 kg)
DE2267-030	004101-030	X	EPROM	R7404	28	002267-030	0.5 lb (0.23 kg)

***NOTE:** Plug in circuit boards required for each R7302 or R7303 conversion.

X7050 xWatch™ Explosion-Proof Surveillance Camera



X7050 xWatch Explosion-Proof Surveillance Camera (Spec Sheet 90-1193) An explosion-proof surveillance camera providing high-resolution color images of activity in the monitored area, which allows the capture and recording of fires and other activities on video. When a detector goes into alarm, the operator can immediately view the monitored area in real time and accurately assess the risk and location of the fire. The camera can be used with any video switcher or server for a live video feed and the output can be directed to a DVR or computer monitor.



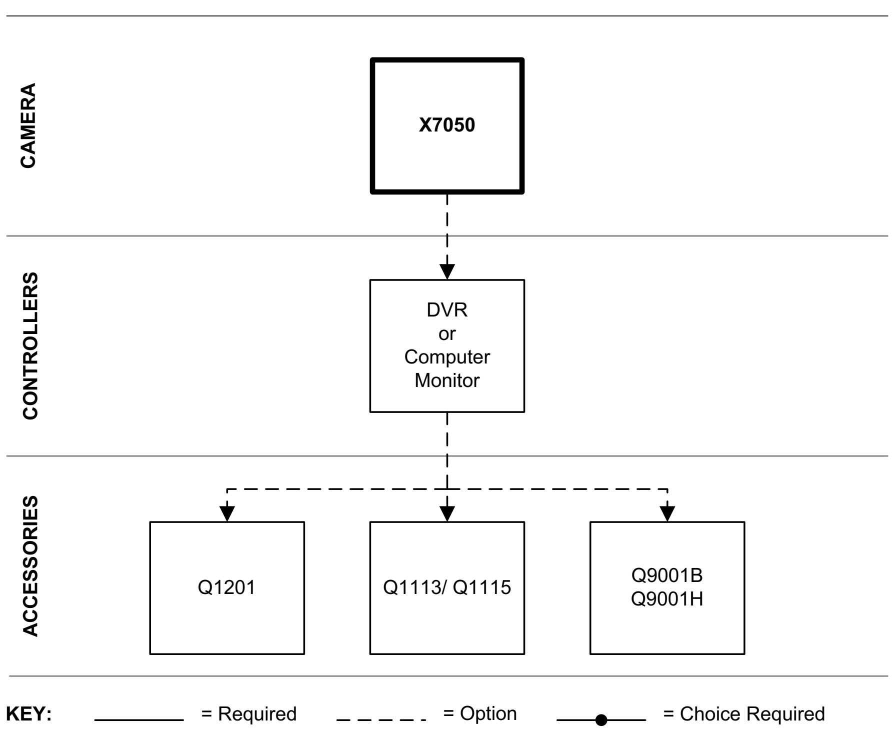
xWatch camera features:

- Easy connection to a video switcher using twisted pair wiring
- Existing wiring can be used in most applications
- IECEx
- Retrofit into a standard C7050 housing by simply replacing the tube module with the DE2020 camera module



Three configurations are available:

- As a stand-alone device to perform typical CCTV functions
- Retrofitted into a C7050 Detector, replacing the UV tube module with the camera module
- Ordered as a combined unit with any of the X-Series Flame Detectors (see flame detector sections for specific models)



X7050 Model Matrix

MODEL	DESCRIPTION
X7050	xWatch Explosion Proof CCTV

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel

TYPE	THREAD TYPE
1E	1/2" NPT
1F	M20

TYPE	VIDEO OUTPUT
50	NTSC
51	PAL

TYPE	APPROVALS
W	FM/CSA/ATEX/CE

TYPE	CLASSIFICATION
2	Division/Zone Ex d

X7050 xWatch Camera

Model	Part Number	Material	Threads	Output	Ship Weight
X7050A1E50W2	009580-001	AL	1/2 NPT	NTSC	1.5 lb (0.7 kg)
X7050A1F50W2	009581-001	AL	M20	NTSC	1.5 lb (0.7 kg)
X7050S1E50W2	009582-001	SS	1/2 NPT	NTSC	2.5 lb (1.2 kg)
X7050S1F50W2	009583-001	SS	M20	NTSC	2.5 lb (1.2 kg)
X7050A1E51W2	009584-001	AL	1/2 NPT	PAL	1.5 lb (0.7 kg)
X7050A1F51W2	009585-001	AL	M20	PAL	1.5 lb (0.7 kg)
X7050S1E51W2	009586-001	SS	1/2 NPT	PAL	2.5 lb (1.2 kg)
X7050S1F51W2	009587-001	SS	M20	PAL	2.5 lb (1.2 kg)

X7050 Spare Camera Modules

Model	Part Number	Material	Threads	Output	Ship Weight
DE2020N	009448-003	N/A	N/A	NTSC	5 oz (0.23 kg)
DE2020P	009448-004	N/A	N/A	PAL	5 oz (0.23 kg)

X7050 Mounting Hardware

Model	Part Number	Material	Threads	Output	Ship Weight
Q9001B1175	002099-003	AL	N/A	N/A	5 oz (0.23 kg)
Q9001H8001	004404-002	SS	N/A	N/A	1 lb (0.45 kg)

X7050 Accessories

Part Number	Description	Ship Weight
000499-073	Screw Terminal Balun, converts single composite CCTV video signal from CAT-5 twisted pair wiring to BNC coaxial connector on DVR or video multiplexer, passive type, suitable for distances up to 750 ft.	1 lb (0.45 kg)

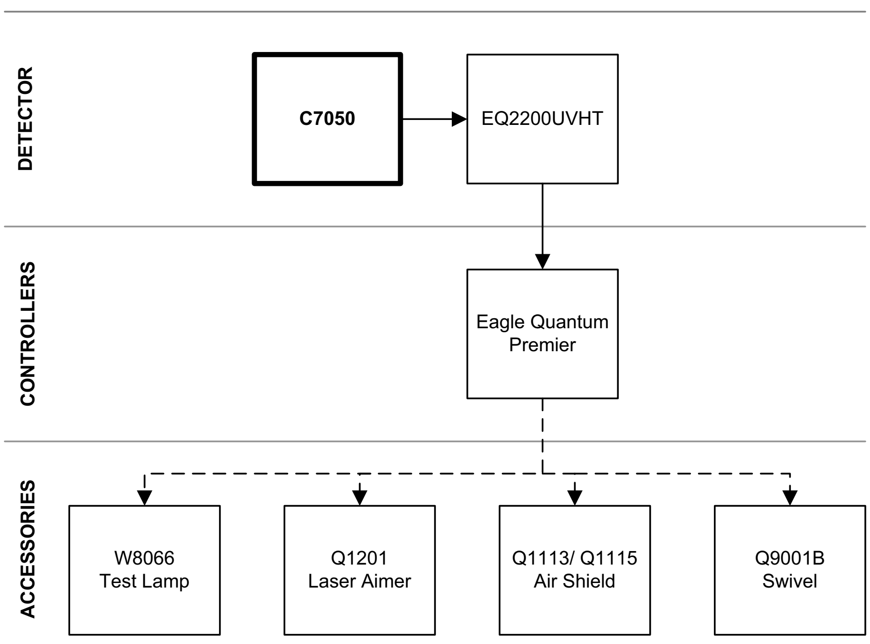
C7050 Detector





C7050 Detector (Manual: 95-8214) combined with the EQ2200UVHT (95-8570) on an EQP (or as a replacement on an older EQ system) provides fast, reliable flame detection in a wide variety of applications. The detector has the Automatic Optical Integrity (oi) feature, providing a continuous check of detector optical surfaces, detector sensitivity, and electronic circuitry of the detector/controller system. Not recommended for applications where welding or lightning may be present.

- Replaceable tube module
- External Automatic oi
- Internal Automatic oi
- Standard temperature option
- High temperature option, 125 °C continuous duty
- Variable sensitivities available to match hazard
- FM, CSA, ATEX



KEY: ———— = Required _ _ _ _ _ = Option ——●—— = Choice Required

C7050B Model Matrix

MODEL	DESCRIPTION
C7050B	Controller Based UV Flame Detector

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel (316)

TYPE	
6	1 Port

TYPE	THREAD TYPE
E	1/2" NPT
F	M20

TYPE	OUTPUTS
4	Pulse (Standard)

TYPE	TUBE MODULE OPTION
A	DE1888A2 (Standard)
K	DE1888K2 (High Temp)
M	DE1888M2 (Remote Surveillance, Hydrogen Fires)
N	DE1888N2 (High Sensitivity, Special App)
T	DE1888T2 (Electrostatic App)
V	DE1888V2 (Internal Reflection)
W	DE1888W2 (Remote Surveillance, Reduced Sensitivity)
X	DE1888N (High Sensitivity)
E	DE1888K3 (High Temperature for UVHT)
Y	DE1888N3 (High Sensitivity, Moly Special, Low Current)

TYPE	OPTIONS
1S	Normal Operating Temperature 75C
1H	High Operating Temperature 125C

TYPE	APPROVAL TYPE
1	Explosion Proof

TYPE	APPROVALS
E	ATEX/CENELEC
A	FM/CSA

C7050B Ultraviolet Flame Detectors

Model	Part Number	Encl Material	Conduit Entry	High Temp*	Tube Module	ATEX/ CENELEC	Ship Weight
C7050BS6F4K1H1E	006899-008	SS	M20	X	DE1888K2	X	2.2 lb (1.0 kg)
C7050BS6F4E1H1E	006899-040	SS	M20	X	DE1888K3	X	2.2 lb (1.0 kg)
C7050 LENS CAP/BODY	008054-001	SS	N/A		N/A	X	1 lb (0.45 kg)

*High temperature rating - continuous duty at 125 degree Celsius, for environments that normally exceed 75 degree Celsius operation.

EQP C7050/UVHT High Temp UV Detectors

Model	Part Number	Encl Material	Conduit Entry	Tube Module	FM/CSA	Ship Weight
C7050BA6E4E1H1A*	006899-037	AL	1/2"	DE1888K3	X	1.2 lb (0.6 kg)
C7050BS6E4E1H1A*	006899-038	SS	1/2"	DE1888K3	X	2.2 lb (1.0 kg)
C7050BA6F4E1H1A*	006899-039	AL	M20	DE1888K3	X	1.2 lb (0.6 kg)
EQ2253UVHT**	007082-001	AL	3/4"	N/A	X	4.0 lb (1.8 kg)
EQ2207UVHT**	007082-002	AL	M25/M20	N/A	X	4.0 lb (1.8 kg)
EQ2263UVHT**	007082-003	SS	3/4"	N/A	X	9.5 lb (4.3 kg)
EQ2217UVHT**	007082-004	SS	M25/M20	N/A	X	9.5 lb (4.3 kg)
C7050 LENS CAP/BODY	004907-021	AL	N/A	N/A	X	<1 lb (<0.45 kg)
C7050 LENS CAP/BODY	004907-022	SS	N/A	N/A	X	1 lb (0.45 kg)

*High temperature rating - continuous duty at 125 degree Celsius, for environments that normally exceed 75 degree Celsius operation.
**One (1) Electronic Module (EQxxxxUVHT) is required for use with each C7050B Detector (-037,-038, or -039 only).

DUAL SPECTRUM INFRARED

Det-Tronics PM-5MPX Dual Spectrum® Flame Detector



Det-Tronics PM-5MPX Dual Spectrum® Flame Detector (Spec Sheet: 90-1182) is optimized for the rigorous semiconductor fabrication industry, which is beset with many hazards that result in stringent and application-specific requirements for fire protection safety systems.

- Complies to FM wet bench performance standards
- Approved to FM3260:2000
- Dual Spectrum® IR design
- Compact size
- LED indicator for operational status
- Built-in mounting plate
- Typical response of <0.5 sec
- Fast response–-as fast as 25 milliseconds
- Polypropylene housing: Excellent resistance to corrosion and contamination effects
- FM approved for intrinsic safety
- CE and ATEX marked
- Highly resistant to false alarms

PM-5MPX Dual Spectrum® IR Flame Detector for Semiconductor Fabrication Tools

Model	Part Number	Encl Material	Cable Length	FM	Ship Weight
PM-5MPX	421132-001	Polypropylene	50 ft	X	0.5 lb (0.23 kg)

Dual Spectrum® PM-5MPX Accessories

Part Number	Description	Ship Weight
007351-001	PSS-ML	<1 lb (<0.45 kg)
420116-001	PSS-MP Test Lamp (PM-5SX, PM-5MP, PM-5MP+, PM-5MPX, PM-6M, PM6MX)	1 lb (0.46 kg)

Det-Tronics PM-9SBE Dual Spectrum®



Det-Tronics PM-9SBE Dual Spectrum® (Spec Sheet: 90-1136) is a fiber optically coupled infrared flame detector that is designed to provide maximum reliability with minimum maintenance in installations that are difficult to monitor using conventional detectors.

The device consists of an optical assembly and an electronic assembly connected by a fiber optic cable. The optical assembly and fiber optic cable can be installed in virtually any hazardous location. This makes the detector highly suitable for protecting inaccessible locations or environments where other detectors could not survive. The fiber optic cable (30, 45, 60, or 100 feet) is resistant to MEK, acetone, and other common solvents.

- Dual wavelength infrared flame detection for false alarm rejection
- Fast 0.5 second response
- Automatic test circuitry ensures proper system function and cable integrity
- Up to 100 foot fiber optic cable length
- Optical assembly and fiber optic cable can be installed in virtually any hazardous location
- High temperature fiber optic cable option
- Silicone free
- Compact sensor head design
- Flexible fiber optic cable assembly
- CE marked

PM-9 Fiber Optic Dual Spectrum® Flame Detector

Model	Part Number	Encl Material	Conduit Entry	Fiber Length	Ship Weight
PM-9SBE	412292-030	AL	3/4 in	30 ft	1.75 lb (0.8 kg)
PM-9SBE	412292-045	AL	3/4 in	45 ft	1.75 lb (0.8 kg)
PM-9SBE	412292-060	AL	3/4 in	60 ft	1.75 lb (0.8 kg)
PM-9SBE	412292-100	AL	3/4 in	100 ft	1.75 lb (0.8 kg)

Dual Spectrum® PM-9 Accessories

Part Number	Description	Ship Weight
412291-001	Electronic assembly (PM-9SBE)	2.5 lb (1.2 kg)
411288-004	Fiber optic cable (10 foot)	2.5 lb (1.2 kg)
411288-001	Fiber optic cable (30 foot)	2.5 lb (1.2 kg)
411288-002	Fiber optic cable (45 foot)	2.5 lb (1.2 kg)
411288-005	Fiber optic cable (60 foot)	2.5 lb (1.2 kg)
411288-003	Fiber optic cable (100 foot)	2.5 lb (1.2 kg)
421368-001	Fiber optic sensor head (conductive)	0.5 lb (0.23 kg)
411833-001	PSS-F test lamp (PM-9CBE, PM-9SBE)	1 lb (0.46 kg)

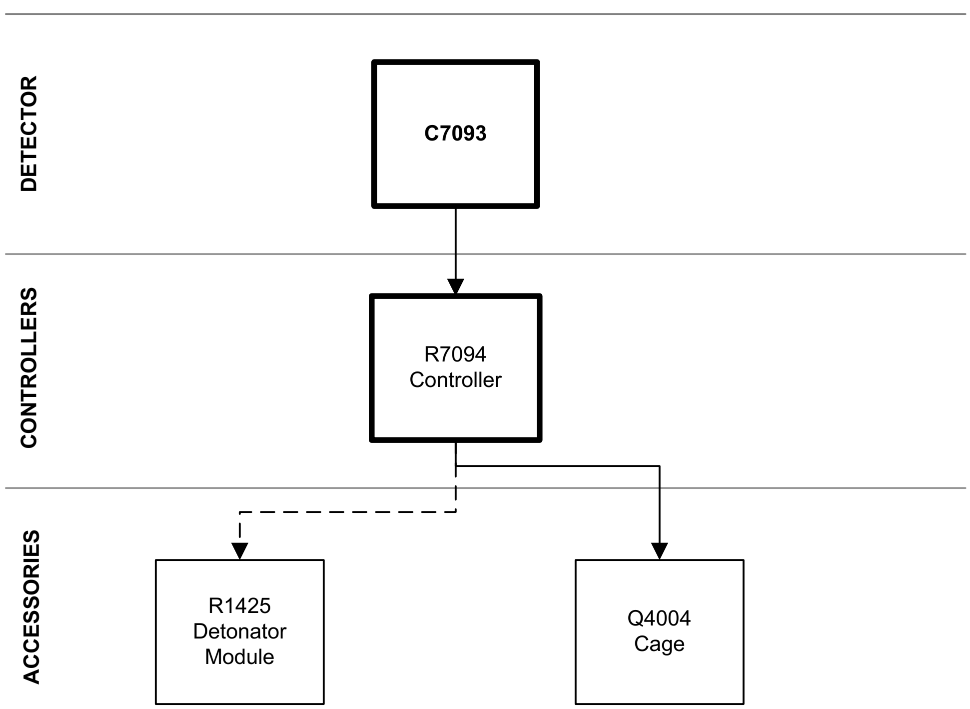
C7093/R7094 High-Speed Infrared Flame Detection System





The **C7093/R7094 High-Speed Infrared Flame Detection System** (Spec Sheet: 90-1028) responds in less than 5 milliseconds to a high-intensity flash fire. Designed specifically for applications such as munitions manufacturing, the C7093/R7094 can trigger high-speed extinguishing systems.

- Extremely fast response (under 5 milliseconds) to flash fire
- Remote test feature provides manual test of optical and electrical components and interconnecting wiring
- Can be used with an external disarming circuit
- Provision for a manual external emergency actuation with circuit (“Manual Pull”) for any contact closure device (Class B Supervised)
- Electronically supervises external detonator circuit
- Provisions for an optional external power supply for use with solenoid valves, etc.
- Auxiliary solid state outputs make the system compatible with other Det-Tronics systems
- Can be connected to remote “Armed” and “Fault” lamps
- Adjustable cone of vision
- Intrinsically safe design



KEY: ________ = Required _ _ _ _ _ = Option ——●—— = Choice Required

C7093 High-Speed Infrared Fire Detector

Model	Part Number	Enclosure Material	Conduit Entry	Cable Length	Ship Weight
C7093D6025	004083-006	316 SS	1/2 in	10 ft	2.75 lb (1.24 kg)
C7093E8010	004083-102*	316 SS	1/2 in	10 ft	2.75 lb (1.24 kg)

* Alliant Tech Model (no optical test)

R7094 High-Speed Infrared Detection Controller

Model	Part Number	Mounting	Ship Weight
R7094A2001	003703-001	Rack	4.4 lb (2.0 kg)

C7093 Test Lamp

Model	Part Number	Ship Weight
PSS-ML	007351-001	<1 lb (<0.45 kg)

SMOKE DETECTORS

U5005 and U5006 Smoke Detectors



U5005 Smoke Detector (Spec Sheet: 90-1101) is a sensitive, yet rugged, state-of-the-art protection device that is designed for classified areas in hazardous industrial and commercial locations. The detector is designed to operate effectively with both slow smoldering and fast-burning fires. Includes an external alarm indicating LED and one set of normally open relay contacts for alarm and one set of normally closed relay contacts for power supervision.

- Trouble-free photoelectric operation
- Standard 4-wire 24 Vdc operation (U5006)
- Rugged design for environmental extremes
- Explosionproof junction box with terminal board
- Auxiliary relay
- CSA approved Class 1, Div 2, Groups A, B, C, and D



U5006 Air Duct Smoke Detector (Spec Sheet: 90-1101), using the technology of the U5005 Smoke Detector mounted into a fiberglass NEMA 4 enclosure, is designed to detect the presence of smoke for the primary purpose of controlling blowers and dampers in air conditioning and ventilation systems. The unit mounts directly to heating, ventilating, and air conditioning ducts and uses a cross-sectional sampling tube arrangement that allows large volume air sampling. Includes an auxiliary alarm relay contact, which can be normally open or closed.

- Trouble-free photoelectric operation
- Standard 4-wire 24 Vdc operation (U5006)
- Designed to meet ANSI/UL 268A smoke obscuration limits
- 600 to 4000 feet per minute airflow range
- Rugged design for environmental extremes
- Explosionproof junction box with terminal board
- Auxiliary relay
- CSA approved Class 1, Div 2, Groups A, B, C, and D



U5005 Smoke Detector

Model	Part Number	Housing Material	J-box Material	Conduit Entry	CSA	Ship Weight
U5005A1001	004784-007	AL	AL	25 mm*	X	2 lb (0.91 kg)

* Shipped with 3/4" adapter.

U5006 Duct Mount Smoke Detector

Model	Part Number	Housing Material	J-box Material	Conduit Entry	Sample Tube	CSA	Ship Weight
U5006A1001	004785-004	Fiberglass	AL	25 mm*	Specify 1,3,6, or 10 ft	X	13 lb (5.9 kg)

* Shipped with 3/4" adapter.

Replacement Sample Tubes for U5006

Part Number	Length
004783-001	1 ft
004783-002	3 ft
004783-003	6 ft
004783-004	10 ft

Miscellaneous Parts and Accessories

Model	Part Number	Description	Ship Weight
23-402	004924-002	Smoke detector head w/fitting (CSA module)	2.5 lb (1.28 kg)
	004788-002	Circuit board for J-box	0.5 lb (0.23 kg)
23-401	102359-001	Rubber plug for sampling tube	0.5 lb (0.23 kg)
	004736-001	RT-1 Return tube, 1 foot length	1 lb (0.46 kg)
	000119-008	Smoke Detector tester (canned smoke)	1 lb (0.46 kg)

ACCESSORIES

Test Lamps



W8066 Portable UV Test Lamp (Spec Sheet: 90-1055) is used for on-site testing of all UV detector types. It replaces W866. Consists of a UV lamp powered by a replaceable 9 volt battery and is contained in a plastic enclosure. Intrinsically safe.



W867C Portable UV/IR Test Lamp (Spec Sheet: 90-1055) is used for on-site testing of UV, single frequency IR, or UVIR detectors. Consists of a high-energy broad band lamp powered by rechargeable batteries and is contained in an explosionproof non-ferrous metallic enclosure.



W8067S Long Range Test Lamp (Manual: 95-8626) for on-site testing of the UVIR and single frequency IR detectors.
NON EXPLOSIONPROOF - CANNOT BE USED IN HAZARDOUS LOCATIONS.

W8066 Portable UV Test Lamp

Model	Part Number	FM	CSA	Ship Weight
W8066A1001	004483-001	X	X	1.5 lb (0.7 kg)
Replacement Bulb	002405-002			<1 lb (<0.45 kg)
Screw-on cap, red for Lens	004520-003			1.5 lb (0.7 kg)
Window, Fused Silica	004648-001			1.5 lb (0.7 kg)
Seal, Pushbutton Boot	102219-001			1.5 lb (0.7 kg)

W867 Portable UV/IR Test Lamp

Model	Part Number	FM	Ship Weight
W867C3001–120 Vac	004000-003	X	14 lb (6.2 kg)
W867C3002–220 Vac, 2 Pin EURO	004000-004	X	14 lb (6.2 kg)
W867C3003–220 Vac, 3 Pin UK	004000-005	X	14 lb (6.2 kg)
Battery Charger, W867, 120 Vac	009117-001		1 lb (0.4 kg)
Battery Charger,W867 and W8067B, 2 PIN 220 Vac, EURO	102124-002		1 lb (0.4 kg)
Battery Charger,W867 and W8067B, 3 PIN 220 Vac, UK	102124-003		1 lb (0.4 kg)
W867 Battery Pack Kit	004611-002		7 lb (3.2 kg)
W867 Replacement Bulb	102123-002		<1 lb (<0.4 kg)

W8067 Long Range Test Lamp

Model	Part Number	Ship Weight
W8067S1003	006439-004	2.0 lb (0.95 kg)
W1212 Battery, Charger and Case	006438-001	2.0 lb (0.95 kg)
Switching power supply (100-240VAC in -12VDC out) w/ interchangeable outlet plugs (world)	103852-001	<1 lb (<0.4 kg)
Replacement Bulb for W8067S	103853-001	<1 lb (<0.4 kg)
W8067S Battery, 6V (2 required for 12V operation)	103855-001	<1 lb (<0.4 kg)

ACCESSORIES

Laser Aimer, Laser Holder, W6300 Detector Inspector



Laser Aimer/Cone of Vision Tester is for use with the Q1201A and Q1201C Laser Holder in sighting and testing the area of flame detection coverage. Battery-powered laser projects a red beam of light and has a rotary switch for turning the device on and off. When used with its holder, the laser beam identifies the center and edges of the detector's COV. Includes battery.



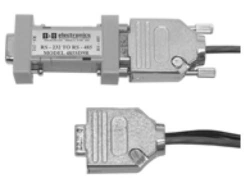
Q1201A Laser Holder (Manual: 95-8404) is for use with the Laser Aimer for sighting and testing area of flame detection coverage. Easily attaches to the front of Det-Tronics' older model UV, single frequency IR and UV/IR detectors for use during system startup, checkout, and re-alignments. Designed to hold the Laser Aimer (which projects a red beam of laser light) to show exact location of the center of the detector's COV. Two additional holding positions are available for locating the outside edges of the COV at either 40 degrees off center (80 degrees total COV) or at 45 degrees off center (90 degrees total COV). While laser is being used to locate edges of the COV it can be rotated 360 degrees to identify the entire area of flame detection coverage.



Q1201C Laser Holder is for use with X3301, X3302, X2200, X5200, X9800 and X3300 flame detectors. Easily attaches to the front of Det-Tronics' X-Series flame detectors for use during system startup, checkout, and re-alignments. Designed to hold the Laser Aimer (which projects a red beam of laser light) to show exact location of the center of the detector's COV. Two additional holding positions are available for locating the outside edges of the COV at either 30 degrees off center (75 degrees total COV) or at 45 degrees off center (90 degrees total COV). While laser is being used to locate edges of the COV it can be rotated 360 degrees to identify the entire area of flame detection coverage.



W6300A Detector Inspector (Manual: 95-8503) for use with U7602E, U7698E and U7652B flame detectors with time, date, fire, and fault stamping feature. Software included.



W6300B Inspector Connector with Inspector Monitor Software for use with X3301, X3302, X5200, X9800 and X2200 flame detectors. Allows for validation of configuration and uploading of important detector status data such as power-up/down, faults and alarms
to a personal computer (PC) where it can be displayed, saved and/or printed.

Laser

Description	Part Number	For Use With	Ship Weight
Laser Aimer	006097-001	Q1201A, B, and C	1 lb (0.46 kg)
Battery, 3V Lithium	102871-001		<1 lb (<0.46 kg)

Q1201 Laser Holder/Aimer

Model	Part Number	For Use With	Ship Weight
Q1201A1001	006066-001	C7050, C7052, U7602	2 lb (0.95 kg)
Q1201C1001	007255-001	X3300, X3301, X3302, X2200, X5200, X9800	2 lb (0.95 kg)

W6300 Inspector

Model	Part Number	For Use With	Ship Weight
W6300A1000 (120 Vac)	007039-001	U7602E, U7698E, U7652	4.15 lb (2 kg)
W6300A1001 (220 Vac)	007039-002	U7602E, U7698E, U7652	4.15 lb (2 kg)

W6300 Inspector Connector

Model	Part Number	For Use With	Ship Weight
W6300B1002 (120/220 Vac)	007819-001	X3301, X3302, X5200, X9800, X2200	<1 lb (<0.46 kg)

ACCESSORIES

Detector Hardware



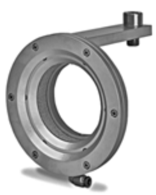
Q1113A Universal Air Shield Assembly (Manual: 95-8321). Use on UV, IR, and UV/IR detectors (C7050A, B and H, C7051, C7052, C7098, U7600, U7602 and U7698) in areas with high levels of airborne contamination. Consists of Delrin (solvent-resistant plastic) air shield housing with bronze sintered air diffuser. Quick connect air line fitting accepts 1/4 inch O.D. nylon tubing for instrument grade air supply of 5 to 15 psi at 3 or more cubic feet per minute. Easy to install on existing detectors.



Q1115 Universal Air Shield/Flange Mount Assembly. Use on UV and IR detectors (C7050B, C7098, U7600, U7602 and U7698) in areas with high levels of air-borne contaminants. Available in either aluminum or stainless steel with a sintered air diffuser. Quick connect air line fitting accepts 1/4 inch OD nylon tubing for instrument grade air supply of 5 to 15 psi at 3 or more cubic feet per minute.



Q1116 Universal Air Shield Assembly. Use on X3301, X3302, X2200, X5200 and X9800 in areas with high levels of air-borne contaminants. Available in aluminum with a sintered air diffuser. Quick connect air line fitting accepts 1/4 inch OD nylon tubing for instrument grade air supply of 12 to 20 psi at 3 or more cubic feet per minute.



Q1118 Universal Air Shield/Flange Mount Assembly. Use on X3301, X3302, X2200, X5200 and X9800 in areas with high levels of air-borne contaminants. Available in either aluminum or stainless steel with a sintered air diffuser. Quick connect air line fitting accepts 1/4 inch OD nylon tubing for instrument grade air supply of 10 to 20 psi at 3 or more cubic feet per minute.



Q1198 Dual Air Shield/Flange Mount Assembly. Use on X9800 in areas with super high levels of powder air-borne contaminants. Aluminum with a sintered air diffuser. Quick connect air line fitting accepts 1/4 inch OD nylon tubing for instrument grade air supply of 10 to 60 psi at 3 or more cubic feet per minute.



Q2000 X-Series Weather Shield. Provides added weather protection.



Q2033 Field of View "FOV" limiter / Weather Shield for the X3301 or X3302. For applications with friendly fires or flares, which require a controlled cone of vision. Order the 10° model for the greatest reduction in field of view, the 20° for standard limitation, or the 30° to maintain the field of view and use as a weather shield.

Q1113 Universal Air Shield Assembly

Model	Part Number	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1113A1001	004273-002	1/4 in OD nylon tubing	5-15 psi	3 cfm minimum	1 lb (0.45 kg)

Q1115 Universal Air Shield/Flange Mount Assembly

Model	Part Number	Material	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1115A1001	006528-001	SS	1/4 in OD nylon tubing	5-15 psi	3 cfm minimum	2 lb (0.9 kg)
Q1115A1002	006528-002	AL	1/4 in OD nylon tubing	5-15 psi	3 cfm minimum	1 lb (0.45 kg)

Q1116 Universal Air Shield Assembly

Model	Part Number	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1116A1001	007240-001	1/4 in OD nylon tubing	12-20 psi	3 cfm minimum	2 lb (0.9 kg)

Q1118 Universal Air Shield/Flange Mount Assembly

Model	Part Number	Material	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1118A1001	007818-001	AL	1/4 in OD nylon tubing	10-30 psi	3-20 cfm target	2 lb (0.9 kg)
Q1118S1001	007818-002	SS	1/4 in OD nylon tubing	10-30 psi	3-20 cfm target	6 lb (2.75 kg)

Q1198 Dual Air Shield/Flange Mount Assembly for X9800

Model	Part Number	Material	Air Connection	Air Supply	Air Requirement	Ship Weight
Q1198A1001	009199-001	AL	6mm OD nylon tubing	10-20 psi	3-5 cfm min	2 lb (0.9 kg)

Q2000 X-Series Weather Shield

Model	Part Number	Material	Ship Weight
Q2000A1001 X-Series Weather Shield	007338-001	AL	1 lb (0.45 kg)

Q2033 FOV Limiter for X3301 and X3302

Model	Part Number	Material	Ship Weight
Q2033A10R 10° FOV Limiter for X3301/X3302	007338-010	AL	1 lb (0.45 kg)
Q2033A20R 20° FOV Limiter for X3301/X3302	007338-020	AL	1 lb (0.45 kg)
Q2033A30R 30° FOV Limiter for X3301/X3302	007338-030	AL	1 lb (0.45 kg)
Spare Restrictor Plate 10 degree FOV	007912-010	AL	<1 lb (<0.45 kg)
Spare Restrictor Plate 20 degree FOV	007912-020	AL	<1 lb (<0.45 kg)
Spare Restrictor Plate 30 degree FOV	007912-030	AL	<1 lb (<0.45 kg)

ACCESSORIES

Detector Mounting Hardware



Q9001B Aluminum swivel for positioning the C7050 and X7050.



Q9001H Stainless steel swivel for positioning the C7050 and X7050.



Q9033A Aluminum swivel for X3301, X3302, X2200, X5200, and X9800.
Note: For use with aluminum body detectors only.



Q9033B Stainless steel swivel for X3301, X3302, X2200, X5200, and X9800.
(DNV approved with X3301)

Detector Mounting Hardware–Swivels

Model	Part Number	For Use With	Ship Weight
Q9001B1175	002099-003	Al C7050 and X7050	0.5 lb (0.23 kg)
Q9001H8001	004404-002	SS C7050 and X7050	1 lb (0.45 kg)
Q9033A1000	007290-002	AL X2200, X5200, X9800, X3301,X3302	6 lb (2.75 kg)
Q9033B1000	007290-001	SS X2200, X5200, X9800, X3301,X3302	14 lb (6.4 kg)

ACCESSORIES

Power Supplies

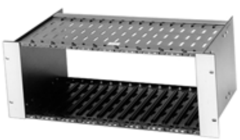


000507-005 and 000507-006 24 Vdc Power Supplies (Spec Sheet: 90-1035). Open frame construction and designed to operate on 120/240 Vac 50/60 Hz to handle the power requirements of IR detection systems, UV/IR detection systems, and larger UV detection systems that typically need higher levels of current than rack-mounted voltage converters can deliver. Use in Q1020 Wall mount enclosures (sold separately) or in other enclosures containing Det-Tronics fire detection equipment. DOES NOT MOUNT INTO THE Q4004 MOUNTING CAGE. Can be used with any controller-based or unitized system designed to operate on 24 Vdc.

000507-005 and 000507-006 Power Supplies

Model	Part Number	Output Rating	Ship Weight
N/A	000507-005	24 Vdc@3.6 amps	6.5 lb (3.0 kg)
N/A	000507-006	24 Vdc@12.6 amps	19.5 lb (8.9 kg)

Mounting Cages and Enclosures



Q4004 Universal Mounting Cage (Manual: 95-8241) for use with R6006, R6007, R7094, R7404, R7405, R7409, R7484, R7494, R7495, R1425 and W4220. Also holds R8471 gas controllers.

Q4004 Universal Mounting Cages

Model	Part Number	Number of Flame Detectors	Ship Weight
Q4004A2019	005269-001	8	9.3 lb (4.2 kg)
Q4004E2027	005269-002	6	7.6 lb (3.5 kg)
Q4004B2011	005269-003	4	5.9 lb (2.7 kg)
Q4004C2009	005269-004	3	5.1 lb (2.3 kg)
Q4004D2007	005269-005	2	4.2 lb (1.9 kg)
Q4004A2050	005269-006	1	3.1 lb (1.4 kg)
Blank filler plates	002188-001	N/A	0.3 lb (1.04 kg)



Q1020A Wall Mount Metal Enclosure (Manual: 95-8350) with metric cage assembly rated IP55. Suitable for indoor applications primarily to provide a degree of protection against dust and/or spraying water. Enclosure features a three-hinged compartment design, locks, and a front viewing window.

Installation and wiring of backplates at factory to a field wiring terminal strip. Provided are one standard electrical and one mechanical drawing. Additional drawings (i.e., COV layout, detector placement) and engineering provided at our standard rate. Additional enclosure charges will include a pre-wiring fee of $300 per module slot for R74XX controllers or $150 for all other controllers. NO DISCOUNTS ALLOWED ON THIS CHARGE.

Q1020A Wall Mount Enclosures

Model	Part Number	Dimensions	Use With	Ship Weight
Q1020A1001	000803-001	13" x 24" x 21"	8 flame/16 gas	80 lb (36 kg)
Q1020A2001	000803-002	26" x 24" x 21"	16 flame/32 gas	160 lb (72 kg)

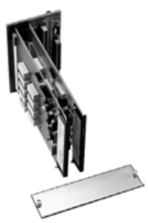
Output Devices for R7XXX Controllers



R1425 Rack Mount Detonator Module (Spec Sheet: 90-1021) for high-speed extinguishing systems. Features two independent capacitive-discharge detonator firing circuits monitored for opens. Use with the R7404 controller. Mounts in Q4004 Cage Assembly (sold separately). Operates on 12 or 24 Vdc.

R1425 Rack Mount Detonator Module for the R7404 Controller

Model	Part Number	Description	Ship Weight
R1425A2024	002791-001	Standard Model	3 lb (1.4 kg)
R1425B3001	002791-002	Requires "UV" and "Matrix" inputs at the same time [Hercules Model]	3 lb (1.4 kg)



R6007A Auxiliary Relay Output Assembly (Spec Sheet: 90-1029). Provides relay contacts actuated by solid state outputs from one R7404, R7409, R7484, or R7494 controller. Four, eight, or twelve relays are supplied on either one or two PC boards. All relays are form C (N.O./N.C.) rated 3 amps at up to 30 Vdc or 250 Vac. Only one controller per R6007A. Mount on Q4004 Cage Assembly (sold separately). Operates on 12 or 24 Vdc. SPECIFY CONTROLLER MODEL AND NUMBER OF RELAYS.

R6007 Auxiliary Relay Output Assembly

Model	Part Number	Zone Relays	Fire Logic Relays	Common Alarm Relay	Common Fault Relay	Data Strobe Output	Ship Weight
R6007A1006	003436-004	0	A and B	X	X	-	2.2 lb (1.0 kg)
R6007A1003	003436-002	8	-	-	-	-	2.2 lb (1.0 kg)
R6007A1002	003436-001	8	A and B	X	X	-	2.2 lb (1.0 kg)
R6007A1009	003436-015	0	B Only	X	X	X	2.2 lb (1.0 kg)
R6007A1008	003436-014	8	B Only	X	X	X	2.2 lb (1.0 kg)

CONTROLLERS

R74XX Controllers



The **R7404 Controller** (Spec Sheet: 90-1014) provide fast, reliable flame detection in a wide variety of applications. The microprocessor-based controller simultaneously monitors up to 16 C7050 ultraviolet detectors in up to eight different zones. The detector has the Automatic Optical Integrity (oi) feature, providing a continuous check of detector optical surfaces, detector sensitivity, and electronic circuitry of the detector/controller system. Selectable time delay. (Indoor applications.)

NOTE: Check X-Series flame detector pulse retrofit options.



The **STAR (Selectable Transient Arc Rejection)** (Manual: 95-8294) logic program for the R7404 Controller has been specifically designed to reject transient electric arcs, such as those produced in electrostatic powder coating or paint spraying booths emitting UV radiation, which can cause false actuation of a UV flame detection system. Supports up to eight detectors in up to eight different zones using adjustable transient arc rejection parameters. (Outdoor applications.)

- Automatic oi
- Adjustable sensitivity and time delay
- Automatic fault identification
- Individual zone identification with eight voting options
- Latching ZONE LEDs identify the zone responding to fire
- Selectable latching or non-latching output circuits
- Individual detector output (count rate) can be measured and observed on digital display
- CSA certified

NOTE: Check X-Series flame detector pulse retrofit options.



The **R7494** controller continuously monitors up to eight detectors and generates the fire alarm in response to the detector's fire signal. The front panel provides switches for selecting mode of operation and initiating test functions.

- Ignores false alarm sources such as arc welding, x-rays, gamma radiation and radiation from flickering hot objects
- Fast response–typically 1 to 5 seconds for an intense hydrocarbon fire
- Each detector independently registers an alarm
- Microprocessor control provides continuous diagnostics and automatic fault identification
- Automatic oi for both UV and IR sensors
- Explosion-proof (flame-proof) detector housing
- Count test mode allows monitoring of actual detector output
- Voting circuitry for improved false alarm rejection
- Up to eight controllers can be wired to provide up to 64 voting detector zones
- FM and CSA certified

NOTE: Check X-Series flame detector pulse retrofit options.

R7404 UV Fire Detection Controller

Model	Part Number	Channels	Backplate Connector	STAR Logic	High Speed	FM	CSA	Ship Weight
R7404B7001	002257-001	8	X		X	X	X	4.4 lb (2.0 kg)
R7404B7003*	002257-006	8	X	X		X	X	4.4 lb (2.0 kg)
R7404B7004	002257-007	8				X	X	4.4 lb (2.0 kg)
R7404C5020	002257-005**	8	X		X	X	X	4.4 lb (2.0 kg)

*Star logic controllers are recommended for outdoor applications.
**Consult Factory - for replacement only, replace with R7404B7001.

R7494 Controller

Model	Part Number	Channels	Backplate Connector	CSA	Ship Weight
R7494B5001	003955-001	8	X	X	4.4 lb (2.0 kg)
R7494B5012	003955-003	8		X	4.4 lb (2.0 kg)

SPARE PARTS

Spare and Replacement Parts

U7698E Spare Parts

Part Number	Replaces	Description	Size	Required per Housing	Ship Weight
005994-003	005994-001	Electronics Module	-	-	0.5 lb (0.23 kg)
005994-004	005994-002	Electronics Module w/ 4-20 mA output	-	-	0.5 lb (0.23 kg)
005994-006	N/A	Electronics Module with time and date stamp	-	-	0.5 lb (0.23 kg)
005994-007	N/A	Electronics Module with time and date stamp - High Speed	-	-	0.5 lb (0.23 kg)
003525-001	N/A	oi ring for IR detectors	-	-	0.5 lb (0.23 kg)
107427-004	N/A	Viton O-ring for UV and IR sensor housings	Small	1	0.5 lb (0.23 kg)
107427-040	N/A	Viton O-ring (U7698E rear housings)	Large	1	0.5 lb (0.23 kg)

U7602E Spare Parts

Part Number	Description	Ship Weight
002469-001	DE2189-001 Terminal block for U7602E and C7050	0.5 lb (0.23 kg)
002519-001	oi ring for UV detectors	0.5 lb (0.23 kg)
006605-007	Electronics Module w/4-20 mA	0.5 lb (0.23 kg)
006605-008	Electronics Module with time and date stamp	0.5 lb (0.23 kg)
006605-009	Electronics Module with time and date stamp – Highspeed	0.5 lb (0.23 kg)

Replacement Parts for UV/IR Detectors

Model	Part Number	Description	Use With	Required per Housing	Ship Weight
DE4431	004431-001	Automatic oi and No. 3 board conversion kit	R7302, R7303	1	1 lb (0.45 kg)
N/A	002519-001	oi ring for UV detectors	UV Detectors	1	0.5 lb (0.23 kg)
N/A	003525-001	oi ring for IR detectors	IR Detectors	1	0.5 lb (0.23 kg)
N/A	107427-006	Small Viton O-ring for UV and IR sensor housings		2	0.5 lb (0.23 kg)
DE4432-001	004432-001	Circuit board for cast J-box	C7052J5000, C7052K5000	1	0.5 lb (0.23 kg)
DE5203	SP005203-002	Circuit board for cast J-box	U7652B	1	1 lb (0.45 kg)
DE5203	SP005203-003	Circuit board for cast J-box	U7652C Auxillary Relay	1	1 lb (0.45 kg)
DE5203	SP005203-004	Circuit board for cast J-box	U7652C 4-20 mA output	1	1 lb (0.45 kg)
N/A	003986-001	Terminal board	C7052C j-box	1	1 lb (0.45 kg)

Circuit Board Parts for J-boxes

Part Number	For Use With	Description	Ship Weight
SP005203-002	U7652B	Replaces 005203-001	0.5 lb (0.23 kg)
SP005203-003	U7652C3	With auxiliary relay	0.5 lb (0.23 kg)
SP005203-004	U7652C4	With 4-20 mA	0.5 lb (0.23 kg)
SP005203-005	U7652B	Form C fault relay	0.5 lb (0.23 kg)
SP005203-006	U7652B	Time date stamping	0.5 lb (0.23 kg)

UV Sensor Modules

Model	Part Number	Comments	Controller	Ship Weight
DE1888A2	003240-201	Replaces DE1666A, DE1666C, DE1777A, DE1777C, DE1888A	C7050, C7052	5 oz. (0.23 kg)
DE1888B2	003240-202	Replaces DE1666B, DE1777B, DE1777D, DE1888D, DE1888B	U7600, U7602, U7652	5 oz. (0.23 kg)
DE1888B3	003240-218	LED for VDS approved devices	U7602B Only	5 oz. (0.23 kg)
DE1888G2	003240-207	Nuclear remote surveillance	C7051	5 oz. (0.23 kg)
DE1888K2	003240-210	Replaces DE1777K, DE1888K, for high temp applications to +125 °C (257 °F)	C7050B	5 oz. (0.23 kg)
DE1888K3	003240-221	For UVHT only	Quantum	5 oz. (0.23 kg)
DE1888M2	003240-212	Replaces DE1777M, DE1888M; for remote surveillance	C7050B	5 oz. (0.23 kg)
DE1888N	003240-013	For black powder, sulfur fires, etc. (high speed)	C7050B	5 oz. (0.23 kg)
DE1888N2	003240-213	For special high sensitivity applications (munitions, propellents)	C7050, C7052	5 oz. (0.23 kg)
DE1888T2	004433-201	For electro painting, spec appl; reduced sensitivity (SF)	C7050B, C7052	5 oz. (0.23 kg)
DE1888U2	003240-220	High speed - for Unitized detectors	U7602B/E	5 oz. (0.23 kg)
DE1888V2	003240-217	Internal reflection	C7050B, C7052	5 oz. (0.23 kg)
DE1888V3	003240-219	Internal reflection, LED	U7652, U7602E	5 oz. (0.23 kg)
DE1888W2	004433-204	Internal reflection w/reduced sensitivity	C7050, U7602B	5 oz. (0.23 kg)

SPARE PARTS

IR Sensor Modules

Part Number	Part Number	Controller	Sensitivity	Ship Weight
DE3207-001	003207-001	C7052B, C7052C3	Std	5 oz. (0.23 kg)
DE3895-001	003895-001	C7052J4	Std	5 oz. (0.23 kg)
DE3895-002	003895-002	C7052J4	High	5 oz. (0.23 kg)
DE3895-003	003895-003	C7052K1	Std	5 oz. (0.23 kg)
DE3895-004	003895-004	C7052K1	High	5 oz. (0.23 kg)
DE4161-001	004161-001	U7698A, U7698C	Std	5 oz. (0.23 kg)
DE4161-002	004161-002	U7698A, U7698C	Std	5 oz. (0.23 kg)
DE4161-003	004161-003	U7698A, U7698C	Reduced	5 oz. (0.23 kg)
DE4960-001	004960-001	U7698B	Std	5 oz. (0.23 kg)
DE4960-003	004960-003	U7698B	Reduced	5 oz. (0.23 kg)
DE4933-001	004933-001	U7698D	Std	5 oz. (0.23 kg)
DE4933-003	004933-003	U7698D	Reduced	5 oz. (0.23 kg)
DE5400-001*	005400-001*	U7652/C7052J - Replaces 005500-001	Std	5 oz. (0.23 kg)
DE5400-004	005400-004	U7652 with BIT	Std	5 oz. (0.23 kg)
DE5500-003	005500-003	C7052K5	Std	5 oz. (0.23 kg)
DE5600-001	005600-001	C7052C5, C7098	Std	5 oz. (0.23 kg)
DE5600-002	005600-002	C7098B, C7052C5	High	5 oz. (0.23 kg)
DE6000-001	006000-001	U7698E	Std	5 oz. (0.23 kg)

* Replaces 005500-XXX IR Sensors

ID Tags and Drawings

Part Number	Comments
STAINLESS TAGS	Stainless steel tag with custom text
PAPER TAGS	Paper tag with custom text
N/A	Certified Drawings (per drawing)

Backplate Terminal Connectors

Use With	Part Number	Replaces	Ship Weight
R1425	002805-001	-	1 lb (0.45 kg)
R6006	002296-001	-	1 lb (0.45 kg)
R6017	003356-001	-	1 lb (0.45 kg)
R7094	003715-001	-	1 lb (0.45 kg)
R7404, R7409, R7484, R7494	002242-001	003551-001, 003957-001	1 lb (0.45 kg)
W4220	002224-001	-	1 lb (0.45 kg)

Miscellaneous Detector Parts for Regular Maintenance

Part Number	Description	Use With	Ship Weight
001680-001	K1003A1006 6PK Window Cleaner	-	0.5 lb (0.26 kg)
002507-001	K1002A1001 UV window cleaning kit (2 bottles cleaner, 8 oi rings)	-	0.5 lb (0.26 kg)
002519-001	oi ring for UV detectors	-	0.5 lb (0.26 kg)
003525-001	oi ring for IR detectors	-	0.5 lb (0.26 kg)
003996-001	UV/IR window cleaning kit (2 bottles cleaner, 4 ea of UV/IR oi rings	-	0.5 lb (0.26 kg)
107427-004	Viton O-ring (small) for UV and IR sensor housings	2 per housing	0.5 lb (0.26 kg)
107427-006	Viton O-ring	-	0.5 lb (0.26 kg)
107427-007	Viton O-ring	U7600, U7602, U7698, U70988	0.5 lb (0.26 kg)
107427-040	Viton O-ring	U7698E rear housings	0.5 lb (0.26 kg)
001981-001	Banana jacks for base conversion to plug in sensor module (qty 4 required)	C7050	0.5 lb (0.26 kg)
004231-001	Adapter	C7037	0.5 lb (0.26 kg)

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GAS

Availability and specifications are subject to change without notice.

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Availability and specifications are subject to change without notice.

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Availability and specifications are subject to change without notice.

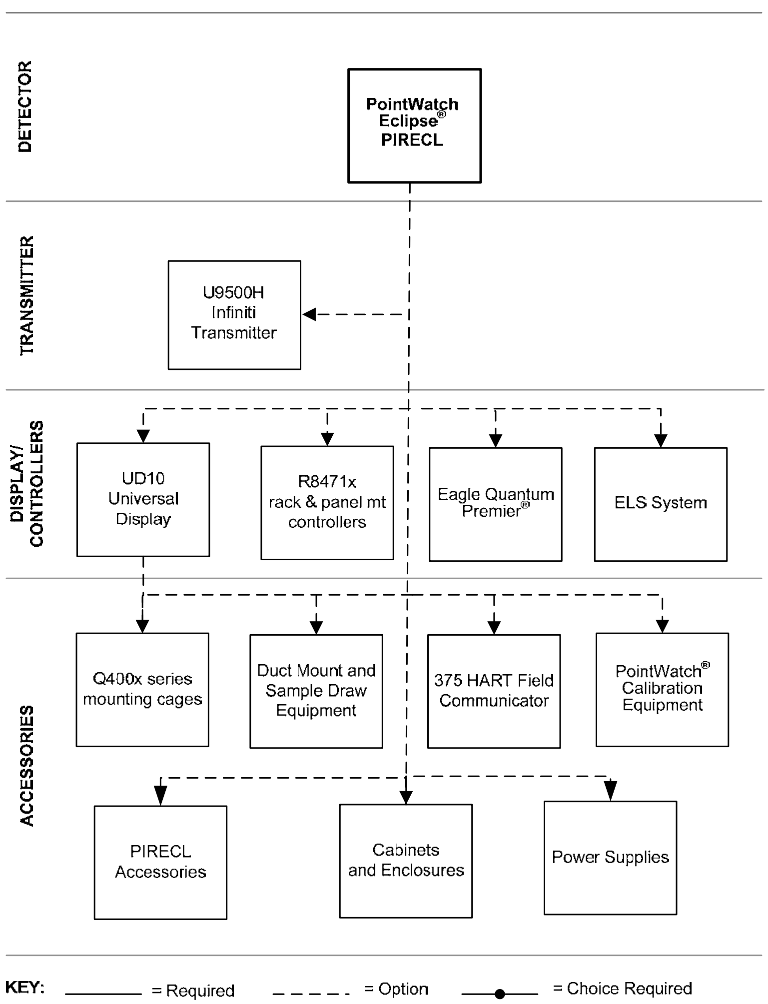
PointWatch Eclipse® PIRECL Infrared Hydrocarbon Gas Detector



The **PointWatch Eclipse® PIRECL Hydrocarbon Detector** (Spec Sheet: 90-1138) is our most rugged stainless steel, point infrared gas detector providing detection of flammable hydrocarbon gases in the LFL range. Standard signal outputs include isolated 4 to 20 mA output, HART communication protocol, and RS-485 serial communication supporting Modbus. An Eagle Quantum Premier version is also available. A tri-color LED provides visual display of operating status. The weather baffle provides excellent optics protection with an easy twist-lock removal. ATEX 94/9/EC certified for global certification compliance. Additional features include:

- Internal wiring compartment saves money and time
- Heated optics
- Non-intrusive calibration
- Immune to poisoning
- Handheld communicator capability
- Optional 2-alarm, 1-fault relay package
- EExd, e, ib protection designs
- IECEx, FM, CSA, ATEX/CE certifications plus others
- **Models available with SIL 2 certification**
- Compatible with
  - UD10 Universal Display
  - U9500H Transmitter
  - R8471H Controller
- Remote calibration capability using model PIRTB junction box
- Eagle Quantum Premier System-compatible version available

YEAR 5 WARRANTY



PointWatch Eclipse® Model Matrix

MODEL	DESCRIPTION
PIRECL	Point Infrared Eclipse Gas Detector

TYPE	THREAD TYPE
A	3/4" NPT
B	M25

TYPE	OUTPUT AND MEASUREMENT OPTIONS
1	4-20 mA with HART Protocol and RS-485: 0-100% LFL Full Scale Range
4	Eagle Quantum Premier Compatible Only: 0-100% LFL Full Scale Range

TYPE	ALARM AND FAULT RELAY OUTPUT OPTION
A	No Relay Option Board installed
B	Relay Option Board installed (Not compatible with EQP) **Ex d only**

TYPE	WEATHER PROTECTION
1	Standard External Black Plastic Weather Baffle with Hydrophobic filter
2	Standard External Black Plastic Weather Baffle without Hydrophobic filter
3	1/16" Thread with Hydrophobic Filter
4	1/16" Thread without Hydrophobic Filter
5	No Weather Protection installed

TYPE	APPROVALS
T	SIL/FM/CSA/ATEX/CE
W	FM/CSA/ATEX/CE
B	CEPEL (Brazil)
R	VNIIFTRI (Russia)
U	TCCExEE/Ukrmetrteststandart (UKRAINE)
Y	CCCF (China)

TYPE	CLASSIFICATION*
1	Division/Zone Ex de
2	Division/Zone Ex d

*Detectors are always Class I, Div. 1. See Manual.

Typical PIRECL Customer Proposal

Qty	Model	P/N	Description
1	PIRECLA1B1W2	007168-005	3/4 NPT, 4-20 mA, w/relays, w/hydrophobic, quad approvals

Spare Parts

Qty	Model	P/N	Description
1	N/A	007165-002	Weather baffle with std inlet nozzle w/hydrophobic filter

Accessories

Qty	Part	Description
1	103346-007	Model 375 HART Field Communicator
1	006468-001	Methane Gas Calibration Kit
1	000118-010	Remote HART Port Replicator Kit - 20 meter

INFRARED

PointWatch® Eclipse Models

Model	Part number	Entry thread type	Output	Relays	Weather protection*	Approvals	Ship Weight
PIRECLA1A1W1	007168-001	3/4 NPT	4-20 mA	No	w/ hydrophobic	FM, CSA, CENELEC/ ATEX, CE	11.5 lb (5.2 kg)
PIRECLA1A2W1	007168-003	3/4 NPT	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B1W2	007168-005	3/4 NPT	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B2W2	007168-007	3/4 NPT	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA1A5W1	007168-022	3/4 NPT	4-20 mA	No	None		11.5 lb (5.2 kg)
PIRECLA1B5W2	007168-023	3/4 NPT	4-20 mA	Yes	None		11.5 lb (5.2 kg)
PIRECLA1A3W1	007168-010	3/4 NPT	4-20 mA	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLA1B3W2	007168-038	3/4 NPT	4-20 mA	Yes	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLB1A3W1	007168-040	M25	4-20 mA	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLB1A1W1	007168-002	M25	4-20 mA	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A2W1	007168-004	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B1W2	007168-006	M25	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A5W1	007168-024	M25	4-20 mA	No	None		11.5 lb (5.2 kg)
PIRECLB1B5W2	007168-025	M25	4-20 mA	Yes	None		11.5 lb (5.2 kg)
PIRECLB1B2W2	007168-027	M25	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A3W1	007168-016	3/4 NPT	EQP	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLA4A1W1	007168-012	3/4 NPT	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A2W1	007168-014	3/4 NPT	EQP	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A3W1	007168-017	M25	EQP	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLB4A1W1	007168-013	M25	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A2W1	007168-015	M25	EQP	No	no hydrophobic		11.5 lb (5.2 kg)

*Units with 1/16 NPT are Duct Kit compatible

PointWatch® Eclipse Models – SIL 2 Certified

Model	Part number	Entry thread type	Output	Relays	Weather protection*	Approvals	Ship Weight
PIRECLA1A1T1	007168-201	3/4 NPT	4-20 mA	No	w/ hydrophobic	SIL,FM,CSA, CENELEC/ ATEX, CE	11.5 lb (5.2 kg)
PIRECLA1A2T1	007168-203	3/4 NPT	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B1T2	007168-205	3/4 NPT	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B2T2	007168-207	3/4 NPT	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA1A3T1	007168-210	3/4 NPT	4-20 mA	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLB1A1T1	007168-202	M25	4-20 mA	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A2T1	007168-204	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B1T2	007168-206	M25	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B2T2	007168-227	M25	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A3T1	007168-240	M25	4-20 mA	Yes	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLA4A1T1	007168-212	3/4 NPT	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A2T1	007168-214	3/4 NPT	EQP	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A3T1	007168-216	3/4 NPT	EQP	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLB4A1T1	007168-213	M25	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A2T1	007168-215	M25	EQP	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A3T1	007168-217	M25	EQP	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)

*Units with 1/16 NPT are Duct Kit compatible

PointWatch® Eclipse Models – Brazil

Model	Part number	Entry thread type	Output	Relays	Weather protection	Approvals	Ship Weight
PIRECLA1A1B2	007168-020	3/4 NPT	4-20 mA	No	w/ hydrophobic	CEPEL (BRAZIL)	11.5 lb (5.2 kg)
PIRECLA1B1B2	007168-021	3/4 NPT	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA1A1BT2	007168-220	3/4 NPT	4-20 mA	No	w/ hydrophobic	SIL/CEPEL	11.5 lb (5.2 kg)

PointWatch® Eclipse Models – Russia

Model	Part number	Entry thread type	Output	Relays	Weather protection	Approvals	Ship Weight
PIRECLB1A1R1	007168-902	M25	4-20 mA	No	w/ hydrophobic	VNIIFTRI (RUSSIA)	11.5 lb (5.2 kg)
PIRECLB1A1R2	007168-905	M25	4-20 mA	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A2R1	007168-904	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A2R2	007168-907	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B1R2	007168-906	M25	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B2R2	007168-908	M25	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A1R2	007168-913	M25	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A2R2	007168-915	M25	EQP	No	no hydrophobic		11.5 lb (5.2 kg)

PointWatch® Eclipse Models – Ukraine

Model	Part number	Entry thread type	Output	Relays	Weather protection	Approvals	Ship Weight
PIRECLB1A1U1	007168-952	M25	4-20 mA	No	w/ hydrophobic	TCCExEE/ Ukrmetrtest-standart (UKRAINE)	11.5 lb (5.2 kg)
PIRECLB1A2U1	007168-954	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A1U2	007168-955	M25	4-20 mA	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B1U2	007168-956	M25	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A2U2	007168-957	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B2U2	007168-958	M25	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)

PointWatch® Eclipse Models – China

Model	Part number	Entry thread type	Output	Relays	Weather protection*	Approvals	Ship Weight
PIRECLA1A1Y1	007168-101	3/4 NPT	4-20 mA	No	w/ hydrophobic	CCCF (CHINA)	11.5 lb (5.2 kg)
PIRECLA1A2Y1	007168-103	3/4 NPT	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B1Y2	007168-105	3/4 NPT	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B2Y2	007168-107	3/4 NPT	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA1A3Y1	007168-110	3/4 NPT	4-20 mA	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLB1A1Y1	007168-102	M25	4-20 mA	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A2Y1	007168-104	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B1Y2	007168-106	M25	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A1Y1	007168-112	3/4 NPT	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A2Y1	007168-114	3/4 NPT	EQP	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A3Y1	007168-116	3/4 NPT	EQP	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)
PIRECLB4A1Y1	007168-113	M25	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A2Y1	007168-115	M25	EQP	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A3Y1	007168-117	M25	EQP	No	1/16 NPT w/hydro		11.5 lb (5.2 kg)

*Units with 1/16 NPT are Duct Kit compatible

PIRECL Accessories, Duct Mount, and Sample Draw



The **Model 375 HART Field Communicator** is available from Detector Electronics Corporation under agreement with Fisher-Rosemount Systems, Inc. The 375 Field Communicator enables connection to the PIRECL via the onboard HART port connection.



In addition to standard replacement **Weather Baffles**, special replacement weather baffles for PIRECL Eclipse are available including a version with a 1/16 inch FNPT, internally-threaded calibration gas opening, enabling users to install a threaded compression fitting (not supplied) into the baffle for use with plastic or metal tubing. Also available is a replacement weather baffle with an external, 7/16-20 threaded calibration gas opening, used within the PIRECL sample draw cup assembly p/n 007378-001. These special weather baffles are identical in all other respects to the standard, factory-installed weather baffles provided on all standard PIRECL models.



The **Remote HART Port Kit and Remote HART cable kit** (Manual: 95-8553) are used with the Model PIRECL PointWatch® Eclipse IR gas detector to provide access to the Eclipse's onboard, intrinsically-safe HART port for a distance up to 20 meters. Cable set is 20 meter long, 2-core, shielded 20 awg conductors with overall PVC-jacket, and is IEC332 approved.



The **Direct Duct Mount Assembly** (p/n 007525-XXX series) enables the model PIRECL PointWatch® Eclipse sensing chamber to be installed directly within air handling ductwork. The assembly is mounted on the duct wall, with the PIRECL sensing chamber exposed directly to duct airflow, ensuring fast response to flammable hydrocarbon gases and vapors. A built-in calibration gas nozzle with an external, self-sealing fitting enables testing and calibration without removal of the detector from the duct. Not recommended for applications where duct air temperatures can exceed 167 °F (75 °C). Price includes all necessary hardware for proper operation, but does not include PIRECL PointWatch® Eclipse. A factory pre-assembled Direct Duct Mount Kit is available (p/n 007529-XXX series) that provides a PIRECL PointWatch® Eclipse detector prefit into the Direct Duct Mount kit assembly. Pricing for the 007529-XXX assembly includes the PIRECL PointWatch® Eclipse.



The **Model Q900 Duct Mount Kit** is used with the PIRECL PointWatch® Eclipse to detect combustible hydrocarbon gases within air handling ductwork. The Q900 is mounted to the exterior of the duct wall and utilizes a duct inlet / return tube arrangement that provides cross-duct air sampling without the need for vacuum pumps or aspirators. High temperature rated, flexible teflon tubes are provided to enable easy access to optics for inspection purposes. Price includes all necessary hardware for proper operation, but does not include PIRECL PointWatch® Eclipse (except where noted). One duct air inlet tube and one return tube are furnished with each Q900 kit.



The **Sample Draw Cup Assembly** enables the Model PIRECL Eclipse to function within a gas sampling system. It consists of an outer cup assembly with stainless-steel, inlet/outlet compression fittings for 0.25 inch diameter tubing, a special inner baffle assembly with external-threaded extension, and silicon gaskets to ensure proper cup assembly seal is provided.

Miscellaneous PIRECL Accessories

375 HART Communicator

Part Number	Description	Ship Weight
103346-007	375 HART communicator, CENELEC approved	7.5 lb (3.4 kg)

PIRECL Weather Baffles

Part Number	Description	Ship Weight
007165-001	Weatherbaffle with std inlet nozzle, w/o hydrophobic filter	<1 lb (<0.45 kg)
007165-002	Weatherbaffle with std inlet nozzle, w/hydrophobic filter (standard)	<1 lb (<0.45 kg)
007165-003	Weatherbaffle with 1/16" FNPT cal gas inlet, w/o hydrophobic filter	<1 lb (<0.45 kg)
007165-004	Weatherbaffle with 1/16" FNPT cal gas inlet, w/ hydrophobic filter	<1 lb (<0.45 kg)
007165-005	Weatherbaffle w/7/16-20 ext threads (use w/sample cup 007378-001)	<1 lb (<0.45 kg)

Remote HART Replicator Kits for use w/ PIRECL and OPECL

Part Number	Description	Ship Weight
000118-010	Remote HART Port Kit, includes 20 meter prefab cable set	7.5 lb (3.4 kg)
000118-020	Remote HART Cable Kit, includes 20 meter prefab cable set	7.5 lb (3.4 kg)

Spare Parts for HART Port Replicator Kit

Part Number	Description	Ship Weight
000118-011	Cordset, 20 meters intrinsically safe cable with prefab connectors	6 lb (2.7 kg)
000118-012	Stainless steel adapter for PIRECL HART connector	<1 lb (<0.45 kg)
000118-013	HART port connector box, IP67 rated, w/stainless connectors	<1 lb (<0.45 kg)
000118-016	SS Cap, Male	<1 lb (<0.45 kg)
000118-021	Extension cordset, HART 375 to 000118-011	1 lb (0.45 kg)

PIRECL Miscellaneous Parts

Part Number	Description	Ship Weight
006672-002	PIRECL windshield calibration bag	<1 lb (<0.45 kg)
009192-001	Cover, cal port tethered, clear *	<1 lb (<0.45 kg)
007145-001	Relay Board	<1 lb (<0.45 kg)
107427-040	O-ring, 3.75" I.D., j-box cover	<1 lb (<0.45 kg)
107427-052	O-ring, 3.25" I.D., front flange (internal)	<1 lb (<0.45 kg)
107427-053	O-ring, 2.43" I.D., weathershield	<1 lb (<0.45 kg)

* Replaces discontinued calibration cap p/n's 102823-001 and 103035-001.

Duct-Mounting Kits and Sample Draw Cup for PIRECL PointWatch® Eclipse

Direct Duct Mount Kits

Part Number	Description	Ship Weight
007525-003	Direct-Duct Mount Kit for PIRECL, 316 SS (PIRECL not included)	1 lb (0.46 kg)
007525-004	Direct-Duct Mount Kit for PIRECL, AL (PIRECL not included)	1 lb (0.46 kg)
007529-001	Direct-Duct Mount Assembly (SS) w/factory-fit PIRECLA1A3W1 - Vertical	15 lb (6.8 kg)
007529-003	Direct-Duct Mount Assembly (SS) w/factory-fit PIRECLA4A3W1 (EQP) - Vertical	15 lb (6.8 kg)
007529-006	Direct-Duct Mount Assembly (SS) w/factory-fit PIRECLA1B3W2 (relays) - Vertical	15 lb (6.8 kg)
007529-007	Direct-Duct Mount Assembly (SS) w/factory-fit PIRECLA1A3W1 - Horizontal	15 lb (6.8 kg)
007529-008	Direct-Duct Mount Assembly (SS) w/factory-fit PIRECLA4A3W1 (EQP) - Horizontal	15 lb (6.8 kg)
007355-001	Q900 Duct Mount Kit, 304 SS (PIRECL not included) specify length of inlet tube at time of order (1, 3, 6, or 10 ft.)	1 lb (0.46 kg)

PIRECL Sample Draw Cup

Part Number	Description	Ship Weight
007378-001	Sample draw cup assembly for PIRECL (PIRECL not included), 1/4" fitting	8 oz (0.23 kg)

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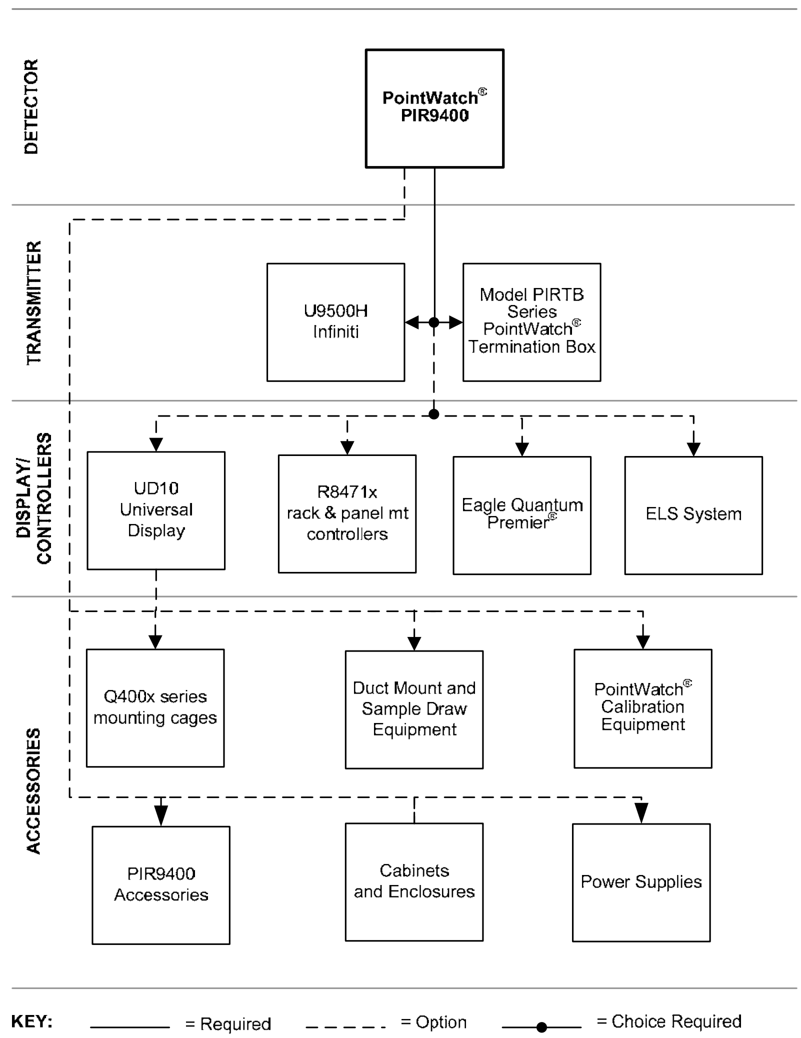
PointWatch® PIR9400 IR Hydrocarbon Gas Detector



PointWatch® PIR9400 Infrared Hydrocarbon Detector (Spec Sheet: 90-1074). For the detection of combustible hydrocarbon gases. Provides reliable operation in high concentrations of background hydrocarbon gases and has low maintenance costs. It is immune to poisoning. Five year warranty.

- 4-20 mA output
- Stand-alone or use with
  - UD10 Universal Display
  - U9500 Infiniti Transmitter
- Automatic Calibration function
- Heated optics
- 0% to 100% LFL detection range
- Non-intrusive calibration capability
- Stainless steel or aluminum option
- Aluminum or plastic baffle option
- Duct mount and sample draw options

YEAR 5 WARRANTY



PointWatch® PIR9400 Model Matrix

MODEL	DESCRIPTION
PIR9400	Pointwatch Gas Detector

TYPE	DETECTOR BODY MATERIAL
A	Aluminum
S	Stainless Steel

TYPE	THREAD TYPE
2	Metric M20
3	3/4" NPT

TYPE	WEATHER BAFFLE MATERIAL
A	Aluminum
P	Polyphthalamide Plastic

TYPE	HYDROPHOBIC FILTER
1	Factory-Fitted Hydrophobic filter
2	No hydrophobic filter

TYPE	LEAD WIRE LENGTH
A	22 inch
B	44 inch

TYPE	APPROVALS
W	FM/CSA/ATEX/CE
R	Russia
B	CEPEL (Brazil)

INFRARED

PointWatch® PIR9400 Models and Typical Proposals

PointWatch ® PIR9400 IR Detectors

Model	Part Number	Thread	Wires length	Body Matl	Baffle Type	Hydro filter	Approvals	Ship Weight
PIR9400A3A1AW	006300-001	3/4 NPT	22"	AL	AL	yes	FM/CSA/CEN/CE/ATEX	2.0 lb (0.95 kg)
PIR9400A2A1AW	006300-002	M20	22"	AL	AL	yes	FM/CSA/CEN/CE/ATEX	2.0 lb (0.95 kg)
PIR9400S3P2AW	006300-003	3/4 NPT	22"	SS	Plastic	no	FM/CSA/CEN/CE/ATEX	4.0 lb (1.8 kg)
PIR9400S2P2AW	006300-004	M20	22"	SS	Plastic	no	FM/CSA/CEN/CE/ATEX	4.0 lb (1.8 kg)
PIR9400A3P2AW	006300-005	3/4 NPT	22"	AL	Plastic	no	FM/CSA/CEN/CE/ATEX	2.0 lb (0.95 kg)
PIR9400A2P2AW	006300-006	M20	22"	AL	Plastic	no	FM/CSA/CEN/CE/ATEX	2.0 lb (0.95 kg)
PIR9400A3A1AB	006300-007	3/4 NPT	22"	AL	AL	yes	CEPEL	2.0 lb (0.95 kg)
PIR9400S3P2AB	006300-009	3/4 NPT	22"	SS	Plastic	no	CEPEL	4.0 lb (1.8 kg)
PIR9400A2A2AW	006300-010	M20	22"	AL	AL	no	FM/CSA/CEN/CE/ATEX	2.0 lb (0.95 kg)
PIR9400S2P1AW	006300-011	M20	22"	SS	Plastic	yes	FM/CSA/CEN/CE/ATEX	4.0 lb (1.8 kg)
PIR9400S3P1AW	006300-012	3/4 NPT	22"	SS	Plastic	yes	FM/CSA/CEN/CE/ATEX	4.0 lb (1.8 kg)
PIR9400A3A1BW	006300-014	3/4 NPT	44"	AL	AL	yes	FM/CSA/CEN/CE/ATEX	2.0 lb (0.95 kg)
PIR9400A2A1AR	006300-902	M20	22"	AL	AL	yes	VNIIFTRI	2.0 lb (0.95 kg)
PIR9400S2P2AR	006300-904	M20	22"	SS	Plastic	no	VNIIFTRI	4.0 lb (1.8 kg)

Typical PIR9400 Customer Proposals

Qty	Part Number	Description
1	006300-001	Aluminum/Aluminum, 3/4 NPT, 22" leads, w/hydrophobic, worldwide approvals
1	009621-002	FlexVu UD10A5N25W2 Universal Display
2	101197-001	Stop Plug, 3/4 NPT, AL

Alternative Proposal-Without Universal Display

Qty	Part Number	Description
1	006300-001	Aluminum/Aluminum, 3/4 NPT, 22" leads, w/hydrophobic, worldwide approvals
1	006414-020	Point Infrared Termination Box, Aluminum, Tall cover, 3/4 NPT, 5-ports

PointWatch® PIR9400 Spare Parts & Accessories

Spare Parts

Part Number	Description
006876-001	Replacement hydrophobic filter kit for PIR9400 (2 filters)
009192-001	Cover, cal port, tethered, clear

Accessories

Part Number	Description
006468-001	Methane Gas Calibration Kit, 50% LFL
009170-001	Cover Removal Tool

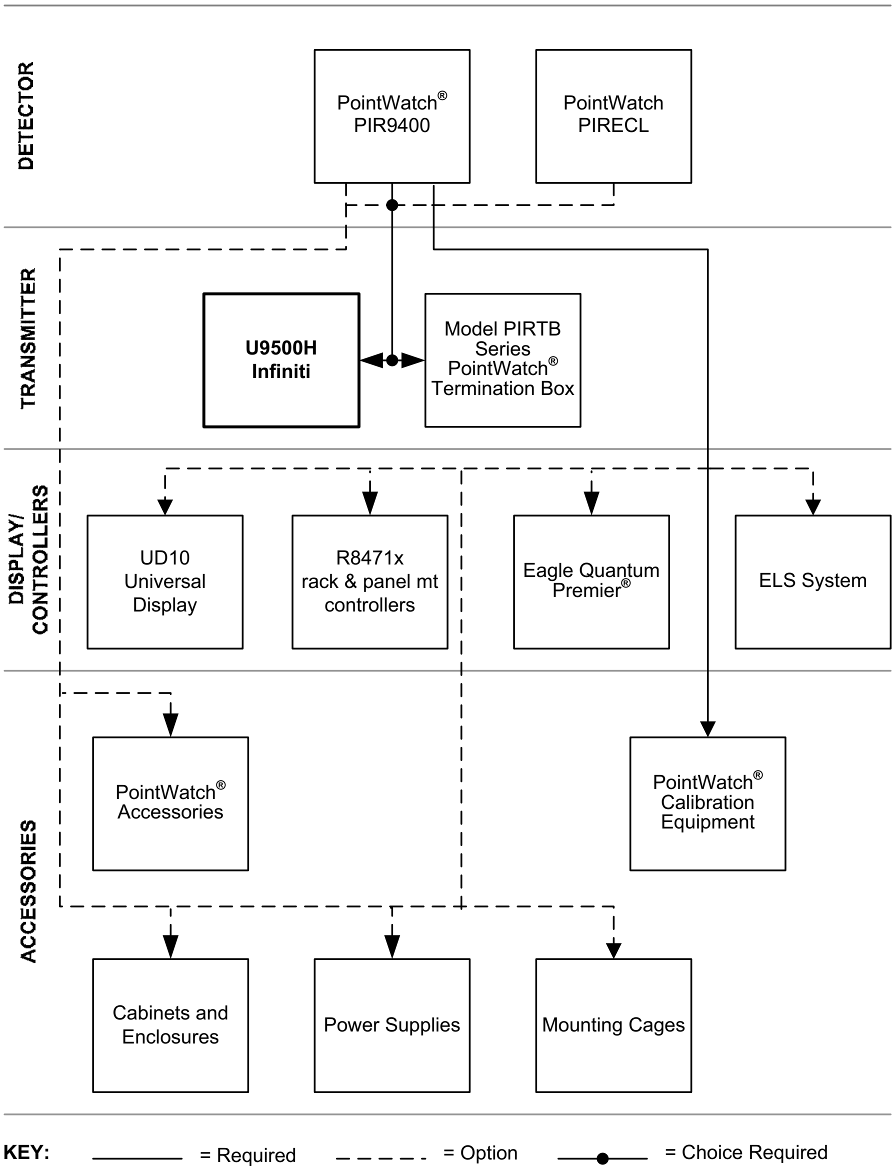
NOTES

U9500H Infiniti® HC–PointWatch® Transmitter



U9500H Infiniti® HC–PointWatch® Transmitter (Spec Sheet: 90-1099). For use with a single Det-Tronics PointWatch Eclipse® or PIR9400 Infrared Hydrocarbon gas detector.

- Linear isolated 4-20 mA output
- Eight character LCD display
- Non-intrusive automatic calibration
- Easy pushbutton configuration
- Base version provides analog output only
- Optional relay package (three alarm, one fault)
- Extensive fault diagnostics
- Stainless steel or aluminum junction box options
- Optional reset/calibration pushbutton is preinstalled on some junction boxes (recommended where magnets are not preferred)



U9500H Infiniti® Model Matrix

MODEL	DESCRIPTION		
U9500	Infiniti Gas Transmitter		
	TYPE	GAS	
	H60	IR Combustible	
		TYPE	OUTPUT
		01 or 02	4-20 mA
		04	Relay and 4-20 mA

U9500H Infiniti® PIR9400 Transmitters (U9500 junction box must be ordered separately)

Model	Part Number	Relays	FM/CSA/ ATEX/CE	RUS	Ship Weight
U9500H6002	006265-003		X		1 lb (0.46 kg)
U9500H6004	006265-009	X	X		1 lb (0.46 kg)
U9500H6002-R	006265-903			X	1 lb (0.46 kg)
U9500H6004-R	006265-909	X		X	1 lb (0.46 kg)

Junction Boxes for U9500 Infiniti®

Part Number	# of Ports	Thread	Material	FM/CSA/ ATEX/CE	Russian	Ship Weight
006264-029	5	3/4 NPT	AL	X		3.15 lb (1.43 kg)
006264-043	5	3/4 NPT	SS	X		9.5 lb (4.3 kg)
006264-044	5	M25	AL	X		3.15 lb (1.43 kg)
006264-045	5	M25	SS	X		9.5 lb (4.3 kg)
006264-944	5	M25	AL		X	3.15 lb (1.43 kg)
006264-945	5	M25	SS		X	9.5 lb (4.3 kg)
006264-034	5	3/4 NPT - PB*	AL	X		3.15 lb (1.43 kg)
006264-036	5	3/4 NPT - PB*	SS	X		9.5 lb (4.3 kg)

*Explosion-proof pushbutton occupies one of the available conduit entries.

Stop Plugs and Reducers

Part Number	Description	Ship Weight
101197-001*	Stop Plug, 3/4" NPT, AL	<1 lb (<0.45 kg)
101197-004*	Stop Plug, 3/4" NPT, SS	<1 lb (<0.45 kg)
103517-001	Stop Plug, M25, AL, IP66	<1 lb (<0.45 kg)
101197-003	Stop Plug, M25, SS, IP66	<1 lb (<0.45 kg)
102804-001	Reducer, M25 to M20, AL	<1 lb (<0.45 kg)
102804-003	Reducer, M25 to M20, SS	<1 lb (<0.45 kg)

*NEMA 4/IP66 rating requires addition of non-hardening thread sealant or Teflon tape.

Typical U9500H and PIR9400 Customer Proposals

Qty	Part Number	Description
1	006300-001	AL/AL, 3/4 NPT, 22" leads, w/hydrophobic, worldwide approvals
1	006265-009	Infiniti transmitter for use with PIR9400, with optional alarm relays
1	006264-029	Infiniti Junction box, Aluminum, 5-port, 3/4 NPT threads
2	101197-001	Stop plug, 3/4 NPT, AL

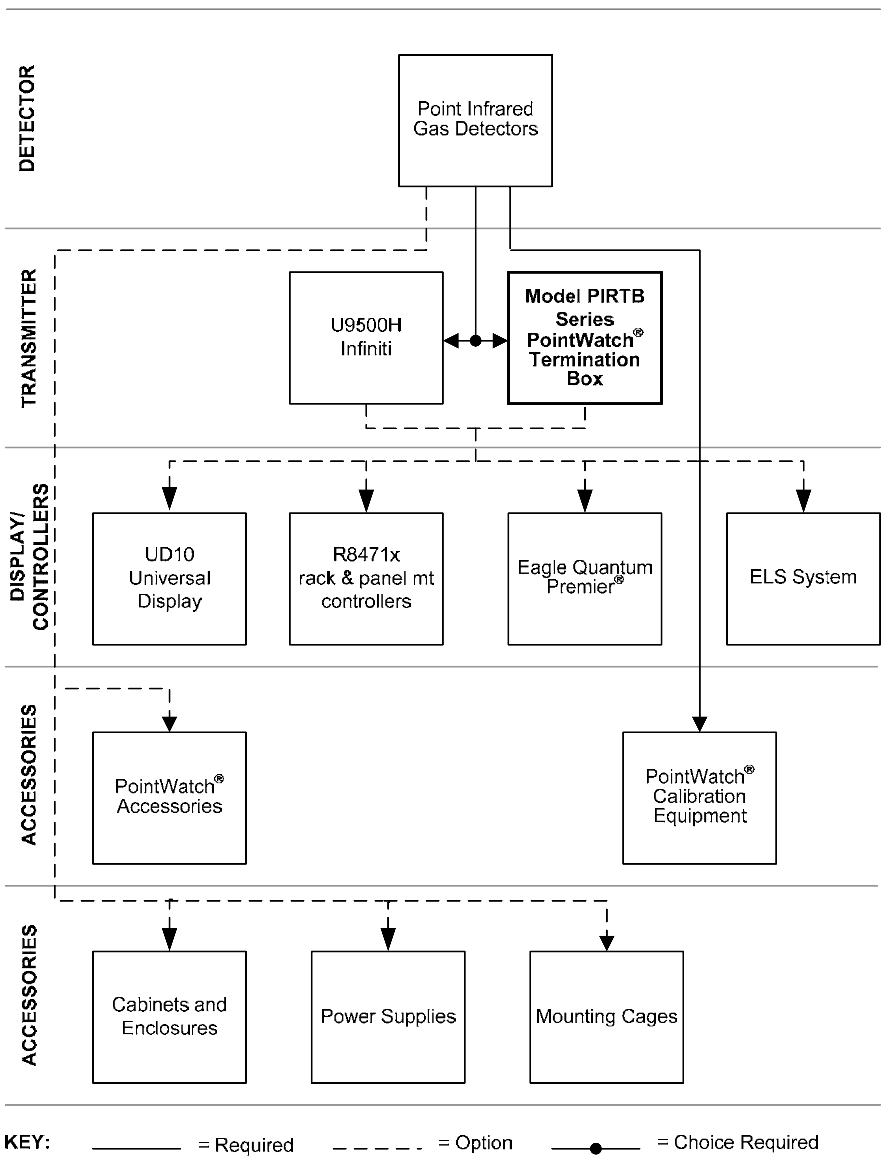
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Model PIRTB Series PointWatch® Termination Box





- Use for stand-alone PointWatch®
- Required for remote separation from U9500H transmitter
- Use with PIRECL Eclipse when remote calibration initiation is required
- Magnetic reed switch calibration and LED gives calibration feedback
- Tall cover boxes with windows enable one person, non-intrusive calibration
- Short cover boxes without windows require two people to accomplish non-intrusive calibration



PIRTB Junction Box Model Matrix (for use with Point Infrared Gas Detectors)

MODEL	DESCRIPTION
PIRTB	PointWatch® Termination Box

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel

TYPE	# OF OPEN PORTS
5	5 Port

TYPE	THREAD TYPE
L	Metric M25
N	3/4" NPT

TYPE	APPROVAL AGENCY
W	FM/CSA/ATEX/CE

TYPE	COVER TYPE
1	Short without window
3	Tall straight with window

TYPE	CABLE ENTRIES
V	Ports 2 thru 6 open

PIRTB Series Termination Boxes

Model	Part Number	Material	Conduit Entry	FM/CSA/ ATEX/CE	Cover	Ports	Ship Weight
PIRTBA5NW1V	006414-016	AL	3/4 NPT	X	Short	5	2 lb (0.95 kg)
PIRTBS5NW1V	006414-017	SS	3/4 NPT	X	Short	5	9 lb (4.1 kg)
PIRTBA5LW1V	006414-018	AL	M25	X	Short	5	2 lb (0.95 kg)
PIRTBS5LW1V	006414-019	SS	M25	X	Short	5	9 lb (4.1 kg)
PIRTBA5NW3V	006414-020	AL	3/4 NPT	X	Tall	5	2.2 lb (1kg)
PIRTBS5NW3V	006414-021	SS	3/4 NPT	X	Tall	5	9.5 lb (4.3 kg)
PIRTBA5LW3V	006414-022	AL	M25	X	Tall	5	2.2 lb (1kg)
PIRTBS5LW3V	006414-023	SS	M25	X	Tall	5	9.5 lb (4.3 kg)

Stop Plugs and Reducers

Part Number	Description	Ship Weight
101197-001*	Stop Plug, 3/4" NPT, AL	<1 lb (<0.45 kg)
101197-004*	Stop Plug, 3/4" NPT, SS	<1 lb (<0.45 kg)
103517-001	Stop Plug, M25, AL, IP66	<1 lb (<0.45 kg)
101197-003	Stop Plug, M25, SS, IP66	<1 lb (<0.45 kg)
102804-001	Reducer, M25 to M20, AL	<1 lb (<0.45 kg)
102804-003	Reducer, M25 to M20, SS	<1 lb (<0.45 kg)

*NEMA 4/IP66 rating requires addition of non-hardening thread sealant.

INFRARED

PIR9400 PointWatch® Accessories



The PointWatch® Direct Duct Mount kit (Manual 95-8525) enables direct mounting of PointWatch® PIR9400 Infrared Hydrocarbon gas detector into air-handling ductwork. Each assembly contains: PointWatch®–modified w/shortened weatherbaffles mounting plate, adapters, and fittings to apply test gas to PointWatch® without duct removal.



The PointWatch® Model Q810 Duct Mount Enclosure (Manual 95-8459) is a different duct mount option for PIR9400, designed to provide hydrocarbon gas detection in air handling, heating, ventilating, and air conditioning ducts. Specially-modified PointWatch® included.

- Mounts to a flat duct wall surface; keeps PIR9400 out of duct interior
- Stainless steel sample inlet tube spans the cross section of the duct; sample return tube returns stream back into duct
- Allows large volume, continuous air sampling with cross-sectional vapor capture
- Requires a 600 – 4000 fpm airflow velocity rate
- 304 stainless steel NEMA 4X enclosure
- 316 stainless steel sample tubes included. Must specify desired inlet tube length

Note: Model U9500H Infiniti is strongly recommended for use with Direct Duct and Q810 assemblies for ease in performing calibration.



The PIR9400 Sample Draw Cup (manual 95-8486) provides a sealed metal enclosure enabling use of PointWatch® PIR9400 within a gas sample extraction system (not included). Requires removal of standard baffle and some field assembly.
Not compatible with PointWatch® Eclipse.

PointWatch® Direct Duct Mount Assembly

Part Number	Conduit Entry	Material	Ship Weight
006575-001	3/4 in	AL	5.5 lb (2.5 kg)
006575-002	3/4 in	SS	7.5 lb (3.4 kg)
006575-003	20 mm	AL	5.5 lb (2.5 kg)
006575-004	20 mm	SS	7.5 lb (3.4 kg)
006575-903*	20 mm	AL	5.5 lb (2.5 kg)
006575-904*	20 mm	SS	7.5 lb (3.4 kg)

All assemblies above include matching PIR9400 detector. Not recommended for use in high-temperature or dirty applications.
Standard PIR9400 models are not compatible with Direct Duct kits.
* Russian-approved PIR9400 models included.

PointWatch® Model Q810 Duct Mount Enclosure

Part Number	Thread	PIR9400 Material	Ship Weight
006739-001	3/4 inch	AL	10 lb (4.5 kg)
000810-002	3/4 inch	SS	12 lb (5.5 kg)
000810-003**	3/4 inch	AL	10 lb (4.5 kg)
000810-004	M20	SS	12 lb (5.5 kg)

* Price includes PointWatch® PIR9400, one inlet tube, and one return tube **(specify inlet length of 1, 3, 6, 10 or 13 ft with order)**.
** includes PIR9400 PointWatch® precalibrated for acetone vapor detection.

Model Q810 Sample Tubes

Part Number	Material	Ship Weight	Length
000214-126	SS	8 oz (0.23 kg)	1 ft
000214-127	SS	1 lb (0.45 kg)	3 ft
000214-128	SS	3 lb (1.35 kg)	6 ft
000214-129	SS	6 lb (2.4 kg)	10 ft
000214-180	SS	9 lb (4.0 kg)	13 ft
000214-130*	SS	8 oz (0.23 kg)	1 ft

* Return tube

PointWatch® Sample Draw Cup

Part Number	Compression Fitting	Material	Ship Weight
006629-002	X	AL	2.0 lb (0.95 kg)
006629-004	X	SS	4.7 lb (2.2 kg)

NOTE: PointWatch® is not included.

PIR9400 Miscellaneous Parts

Part Number	Description	Ship Weight
009170-001	PIR9400 Cover removal tool	8 oz (0.23 kg)
009192-001	Cover, cal port tethered, clear **	8 oz (0.23 kg)
006672-001	PIR9400 Calibration windshield bag	8 oz (0.23 kg)
006876-001	Hydrophobic Screen Kit	8 oz (0.23 kg)
006743-001	Threaded Cal Tubing Adapter (PIR9400A only)	8 oz (0.23 kg)
006680-001	Silicone grease (for PIR9400 threads only)	8 oz (0.23 kg)
006873-001	Plastic weather baffle, (PIR9400S)	8 oz (0.23 kg)
006548-004	Outer weather baffle only (alum)	8 oz (0.23 kg)
006506-001	SS slip ring	8 oz (0.23 kg)
102740-002	Calibration magnet*	8 oz (0.23 kg)
162552-002	Regulator, 2.5 LPM flow	8 oz (0.23 kg)
SP006412-001	PIRTB replacement terminal board	2 oz (0.09 kg)

* Calibration magnet is provided on the order with a PIR9400/U9500.
** Replaces discontinued calibration caps p/n 102823-001 and 103035-001.

INFRARED

Model MIR MSHA Approved IR Gas Detector

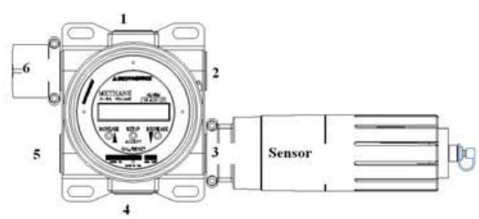


Model MIR - MSHA Approved IR Gas Detector (Spec Sheet: 90-1196) is a diffusion based point-type infrared (IR) gas detector that provides continuous monitoring for hydrocarbon gases in underground mining applications. The gas detection system is approved by MSHA as permissible for use in gassy mines (Approval No. 18-A070003-0).

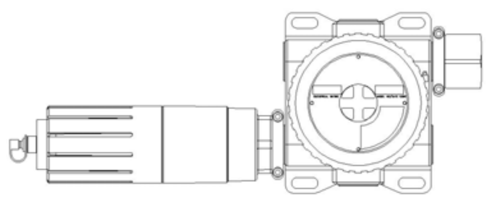
- MSHA approved as a permissible gas detector system
- Responds appropriately to light hydrocarbons
- Transmitter display shows 0-5% methane by volume
- Minimum routine maintenance
- Longer service life than catalytic bead sensors
- Fail-safe operation



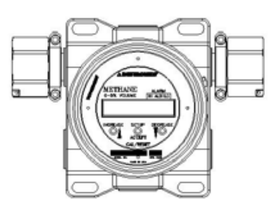
Combination 1
Sensor and Transmitter
Shown with type 603
Port configuration



Combination 2
Sensor and Termination Box
Shown with type 205
Port configuration



Combination 3
Transmitter
Shown with type 260
Port configuration



MIR Mining IR Gas Detector Model Matrix

MODEL	DESCRIPTION
MIR	Mining IR Gas Detector

TYPE	COMBINATION
1	Sensor and Transmitter (TX)
2	Sensor and Termination Box
3	Transmitter (TX) Only

TYPE	BODY MATERIAL
A	Aluminum

TYPE	PORT CONFIGURATION
205	Port 2 Open, Port 5 Sensor (Combination 1 and 2)
603	Port 6 Open, Port 3 Sensor (Combination 1)
200	Port 2 Open (Combination 3)
600	Port 6 Open (Combination 3)
260	Ports 2 and 6 Open (Combination 3)

TYPE	WEATHER BAFFLE MATERIAL
N	N/A
A	Plastic w/ 90 micron filter
B	Plastic w/ 180 micron filter

TYPE	OUTPUTS
12	4-20mA
13	Relay and 4-20mA

TYPE	APPROVAL AGENCY
M	MSHA

Sensor and Transmitter (Combination 1)

Model	Part Number	Body Matl	Thread	Open Port Location	Sensor Location	Baffle Filter	4-20mA	Relays	Approvals	Ship Weight
MIR1A205A12M	009694-001	AL	M25	2	5	90 micron	X		MSHA	4.0 lb (1.8 kg)
MIR1A603A12M	009694-002	AL	M25	6	3	90 micron	X		MSHA	4.0 lb (1.8 kg)
MIR1A205A13M	009694-003	AL	M25	2	5	90 micron	X	X	MSHA	4.0 lb (1.8 kg)
MIR1A603A13M	009694-004	AL	M25	6	3	90 micron	X	X	MSHA	4.0 lb (1.8 kg)
MIR1A205B12M	009694-005	AL	M25	2	5	180 micron	X		MSHA	4.0 lb (1.8 kg)
MIR1A603B12M	009694-006	AL	M25	6	3	180 micron	X		MSHA	4.0 lb (1.8 kg)
MIR1A205B13M	009694-007	AL	M25	2	5	180 micron	X	X	MSHA	4.0 lb (1.8 kg)
MIR1A603B13M	009694-008	AL	M25	6	3	180 micron	X	X	MSHA	4.0 lb (1.8 kg)

Sensor and Termination Box (Combination 2)

Model	Part Number	Body Matl	Thread	Open Port Location	Sensor Location	Baffle Filter	4-20mA	Approvals	Ship Weight
MIR2A205A12M	009695-001	AL	M25	2	5	90 micron	X	MSHA	4.0 lb (1.8 kg)
MIR2A205B12M	009695-002	AL	M25	2	5	180 micron	X	MSHA	4.0 lb (1.8 kg)

Transmitter Only (Combination 3)

Model	Part Number	Body Matl	Thread	Open Port Location	4-20mA	Relays	Approvals	Ship Weight
MIR3A200N12M	009696-001	AL	M25	2	X		MSHA	4.0 lb (1.8 kg)
MIR3A600N12M	009696-002	AL	M25	6	X		MSHA	4.0 lb (1.8 kg)
MIR3A260N12M	009696-003	AL	M25	2 and 6	X		MSHA	4.0 lb (1.8 kg)
MIR3A200N13M	009696-004	AL	M25	2	X	X	MSHA	4.0 lb (1.8 kg)
MIR3A600N13M	009696-005	AL	M25	6	X	X	MSHA	4.0 lb (1.8 kg)
MIR3A260N13M	009696-006	AL	M25	2 and 6	X	X	MSHA	4.0 lb (1.8 kg)

Accessories and Spare Parts

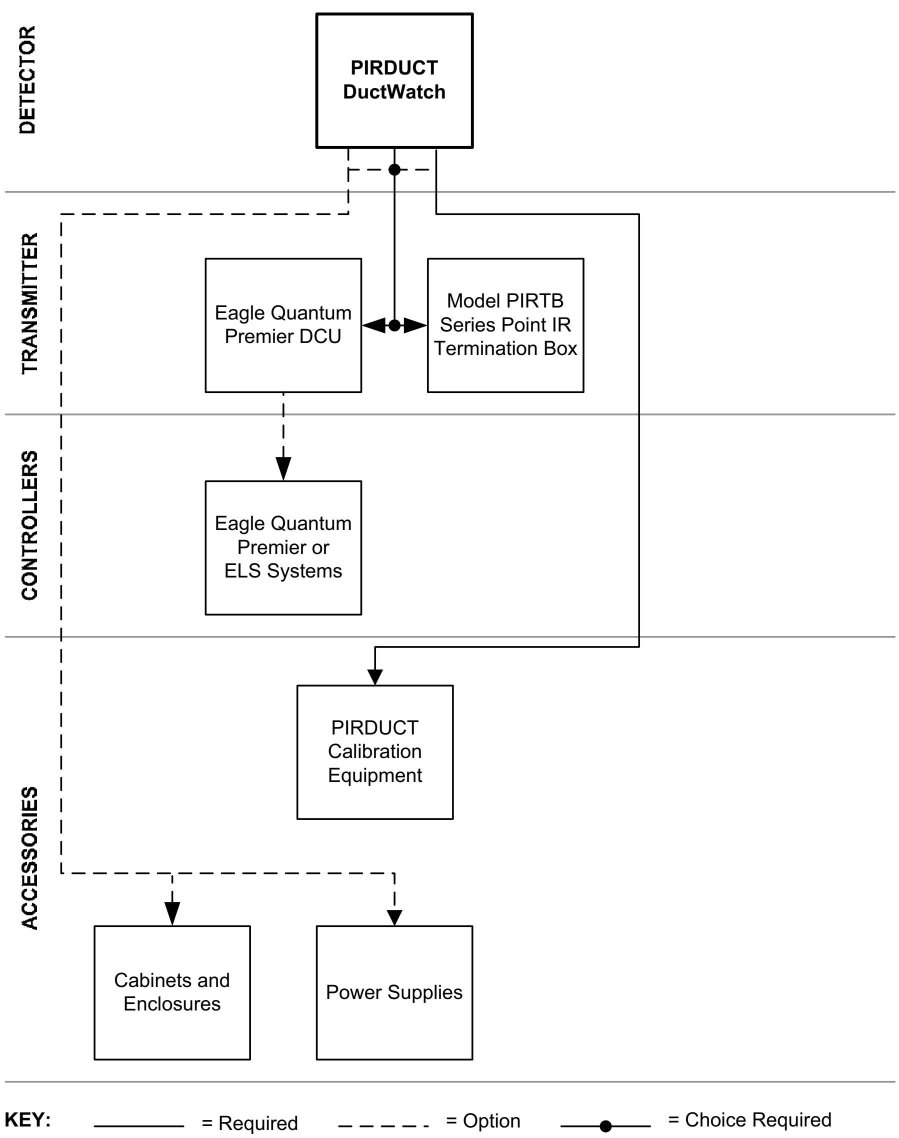
Part Number	Description	Ship Weight
006672-001	Calibration Windshield Bag	8 oz (0.23 kg)
006468-001	Calibration Kit, Methane, 50% LFL, 2.5% Vol	11.5 lb (5.23 kg)
226166-001	Methane Cylinder,50% LFL, 2.5% Vol	1.5 lb (0.7 kg)
009442-001	IR Filter Assembly, 90 micron	1 lb (0.46 kg)
009442-002	IR Filter Assembly, 180 micron	1 lb (0.46 kg)

PIRDUCT IR Gas Monitor



The Model **PIRDUCT** DuctWatch™ (Spec Sheet: 90-1188) is an infrared (IR) based flammable gas monitoring solution designed for combustion turbine enclosure monitoring and similar air handling ductwork applications. The DuctWatch is easy to install and commission, and does not require expensive extractive sampling system hardware. Providing a full scale measurement range of 0 to 15% LFL (7500 ppm) methane vapor concentration, the DuctWatch delivers a new level of flammable hydrocarbon gas protection for high airflow environments. PIRDUCT is compatible for mounting on any flat mounting surface, and is provided with a solid mounting plate with seal gasket to prevent air leakage. Minimum internal duct width of 3 feet (1 meter) is required for proper instrument clearance and installation. Air movement is required for proper device performance. PIRDUCT is available in the following configurations:

- Factory-fit with an aluminum 5-port Det-Tronics PIRTB wiring termination box
- Factory-fit with a Det-Tronics aluminum 2-port Eagle Quantum Premier® DCU wiring termination box
- No junction box provided



PIRDUCT Model Matrix

MODEL	DESCRIPTION
PIRDUCT	Point Infrared DuctWatch Gas Monitor

TYPE	Thread Type
A	3/4" NPT
B	M25

TYPE	SIGNAL OUTPUT
1	4-20 mA

TYPE	APPROVALS
W	FM/CSA/ATEX/CE

TYPE	WIRING TERMINATION JUNCTION BOX
1	Factory-fit with PIRTBA5NW3V (std 4-20 mA), AL, 3/4"NPT cable entry
2	Factory-fit with PIRTBA5LW3V (std 4-20 mA), AL, M25 cable entry
3	Factory-fit with EQ2253DCU (EQP sys only), AL, 3/4"NPT cable entry
4	Factory-fit with EQ2207DCU (EQP sys only), AL, M25 cable entry
5	No factory-fit wiring j-box provided

PIRDUCT Model Listings

Model	Part Number	Output	Wiring Enclosure	Entry thread type	# of ports	Approvals	Ship Weight
PIRDUCTA1W1	008945-002	4-20 mA	PIRTBA5NW3V	3/4 NPT	5	FM/CSA/ ATEX/CE	7.5 lb (3.4 kg)
PIRDUCTB1W2	008945-001	4-20 mA	PIRTBA5LW3V	M25	5		7.5 lb (3.4 kg)
PIRDUCTA1W3	008945-004	EQP only	EQ2253DCU	3/4 NPT	5		7.5 lb (3.4 kg)
PIRDUCTB1W4	008945-003	EQP only	EQ2207DCU	M25	5		7.5 lb (3.4 kg)
PIRDUCTA1W5	008945-005	4-20 mA	none	3/4 NPT	na		7.5 lb (3.4 kg)
PIRDUCTB1W5	008945-006	4-20 mA	none	M25	na		7.5 lb (3.4 kg)

INFRARED

PointWatch® PIR9400, PointWatch Eclipse® and PIRDUCT Calibration Kits

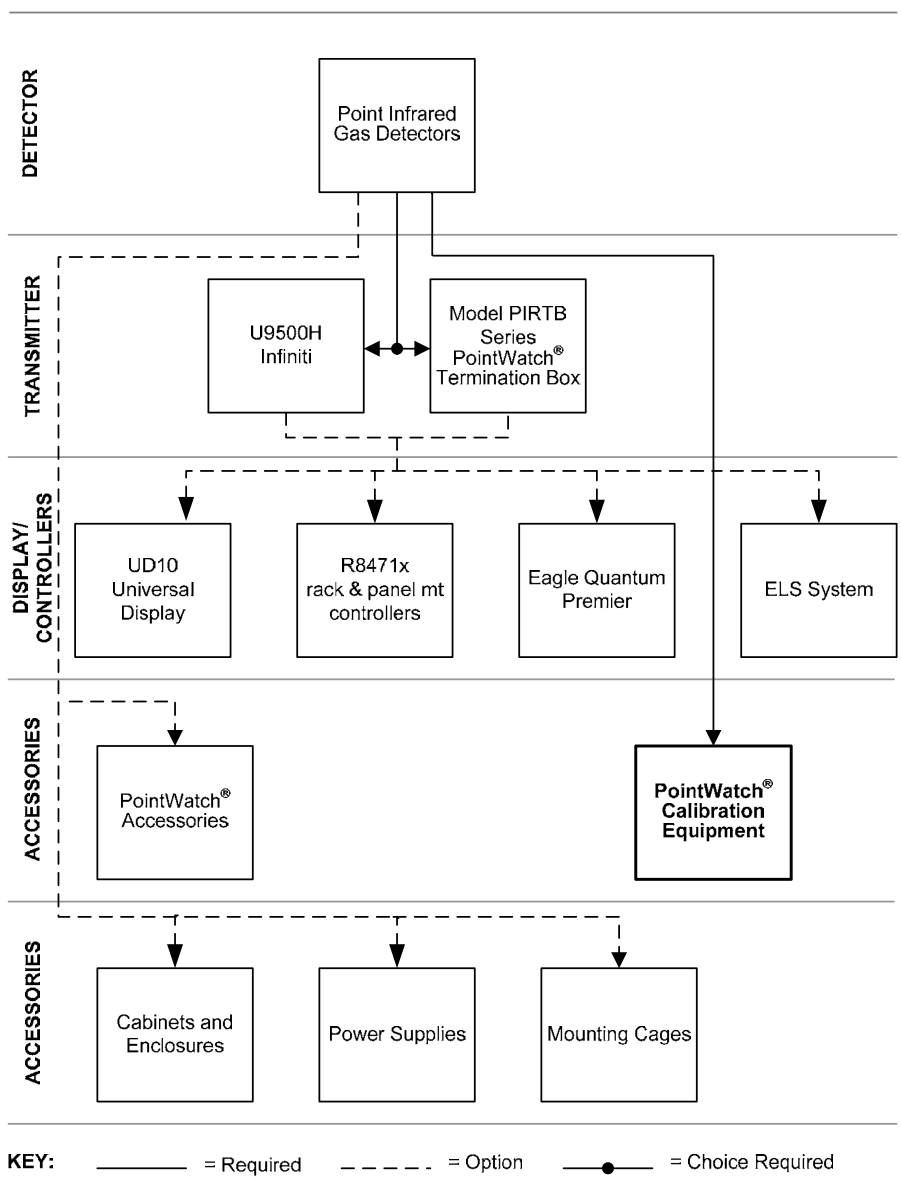


High accuracy compressed gas calibration kits provided for field calibration of all PointWatch® IR detectors. Each kit includes:

- Two 3.6 ft^3 (103 liters) cylinders of specified gas
- Special regulator pressure indicator, 3-foot tube
- Sturdy plastic carrying case



The Windshield Calibration Bag enables calibration to be performed in high wind conditions. The bag is slipped over the gas detector and secured with a Velcro sealing strap. Gas is applied to the detector through a gas inlet nozzle on the end of the bag.
NOTE: PointWatch® PIR9400, PointWatch® Eclipse and PIRDUCT each require their own unique calibration bag model (not included in Calibration Kit).



PIR9400, PIRECL, and PIRDUCT Calibration Kits

Part Number	Gas	%LFL	% Vol	Ship Weight
006468-006	Butane	50%	0.8	11.5 lb (5.23 kg)
006468-002	Ethane	50%	1.5	11.5 lb (5.23 kg)
006468-003	Ethylene	50%	1.35	11.5 lb (5.23 kg)
006468-007*	Methane	7.5%	0.375	11.5 lb (5.23 kg)
006468-014	Methane	50%	2.2	11.5 lb (5.23 kg)
006468-914	Methane	50%	2.2	11.5 lb (5.23 kg)
006468-001	Methane	50%	2.5	11.5 lb (5.23 kg)
006468-906	Methane	50%	2.5	11.5 lb (5.23 kg)
006468-015	Propane	50%	0.85	11.5 lb (5.23 kg)
006468-915	Propane	50%	0.85	11.5 lb (5.23 kg)
006468-004	Propane	50%	1.1	11.5 lb (5.23 kg)
006468-005	Propylene	50%	1	11.5 lb (5.23 kg)

* PIRDUCT

Calibration Kit Replacement Cylinders

Part Number	Gas	%LFL	% Vol	Ship Weight
226166-006	Air	N/A	20.9 Oxygen	1.5 lb (0.7 kg)
226166-011	Butane	50%	0.8	1.5 lb (0.7 kg)
226166-002	Ethane	50%	1.5	1.5 lb (0.7 kg)
226166-902	Ethane	50%	1.5	1.5 lb (0.7 kg)
226166-003	Ethylene	50%	1.35	1.5 lb (0.7 kg)
226166-005	Hydrogen	50%	2.0	1.5 lb (0.7 kg)
226166-012*	Methane	7.5%	0.38	1.5 lb (0.7 kg)
226166-007	Methane	20%	1.0	1.5 lb (0.7 kg)
226166-008	Methane	25%	1.25	1.5 lb (0.7 kg)
226166-009	Methane	35%	1.75	1.5 lb (0.7 kg)
226166-014	Methane	50%	2.2	1.5 lb (0.7 kg)
226166-914	Methane	50%	2.2	1.5 lb (0.7 kg)
226166-001	Methane	50%	2.5	1.5 lb (0.7 kg)
226166-901	Methane	50%	2.5	1.5 lb (0.7 kg)
226166-015	Propane	50%	0.85	1.5 lb (0.7 kg)
226166-915	Propane	50%	0.85	1.5 lb (0.7 kg)
226166-004	Propane	50%	1.1	1.5 lb (0.7 kg)
226166-010	Propylene	50%	1.0	1.5 lb (0.7 kg)

* PIRDUCT

PIR9400, PIRECL, and PIRDUCT Calibration Kit Replacement Parts

Part Number	Description	Ship Weight
162552-002	Regulator, 2.5 LPM	8 oz (0.23 kg)
162553-001	Replacment carrying Case	8 oz (0.23 kg)
101678-007	3 Foot tubing	8 oz (0.23 kg)

PIR Windshield Calibration Bags

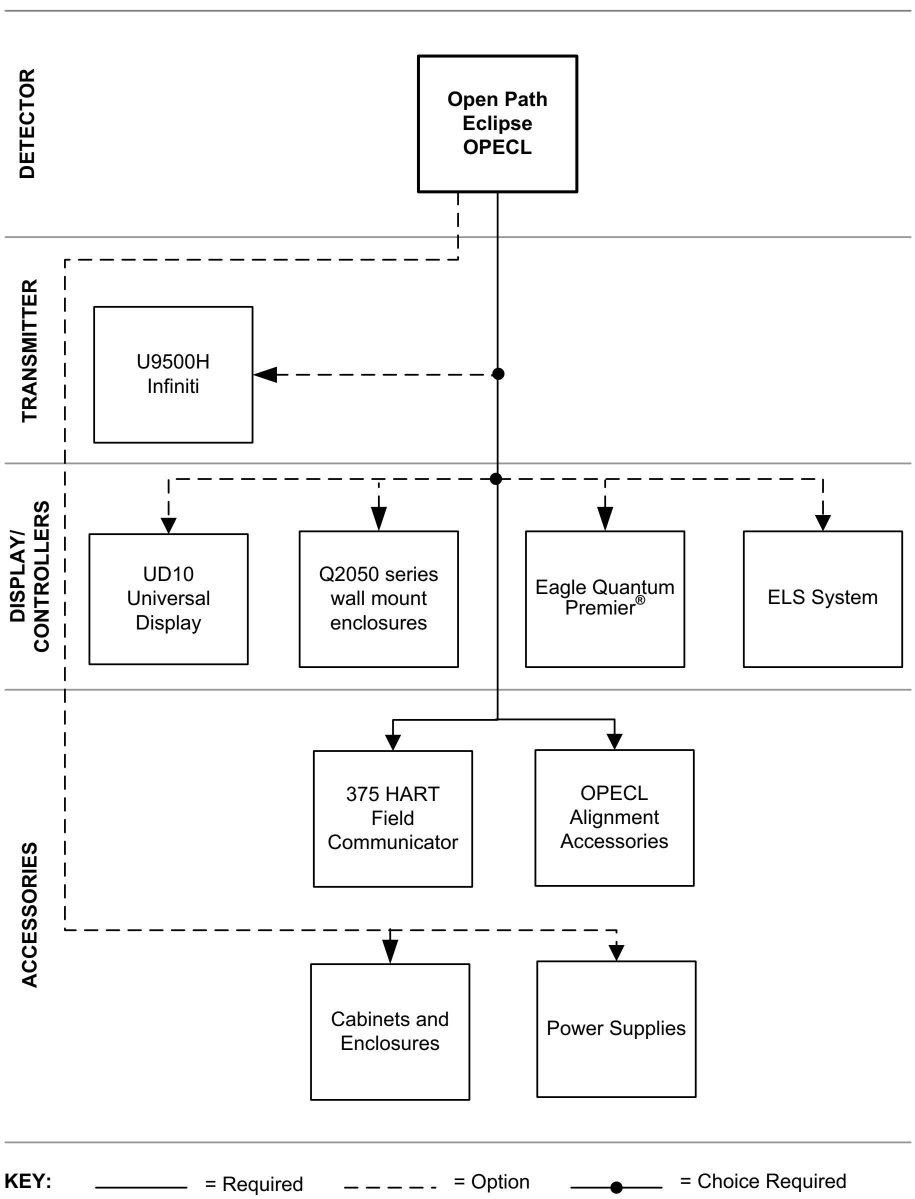
Part Number	Description	Ship Weight
006672-001	PIR9400 Windshield calibration bag	8 oz (0.23 kg)
006672-002	PIRECL Windshield calibration bag	8 oz (0.23 kg)
006672-003	PIRDUCT Windshield calibration bag	8 oz (0.23 kg)

Open Path Eclipse OPECL Infrared Gas Detection System



The **Open Path Eclipse Infrared Gas Detection System** (Spec Sheet: 90-1159) is a stainless steel, IR beam-type hydrocarbon gas detection system. The system consists of two modules (transmitter and receiver) offering:

- Module separation distance range from 5-120 meters (optical aperture kit supplied with system is required for 5-30 meters)
- Dual xenon flashlamp technology for maximum performance in harsh environments
- Standard 4-20 mA output, HART communications, RS485 Modbus
- Optional alarm relays (Ex d only)
- Tri-color LEDs are provided on both modules for visual indication of operating status.
- Mounting hardware and pan-tilt brackets included with both modules
- Built-in locking adjusters deliver fine control of alignment angles
- Telescope alignment tool available
- Spare Xenon lamp module available
- Eagle Quantum Premier System-compatible version available



Open Path Eclipse Model Matrix

MODEL	DESCRIPTION
OPECL	Open-Path Eclipse Infrared Gas Detector

TYPE	MATERIAL
S	Stainless Steel

TYPE	CONDUIT ENTRY THREAD TYPE
2M	2 Port, Metric M25
2N	2 Port, 3/4" NPT

TYPE	OUTPUT
00	None (Transmitter Only)
14	Eagle Quantum Premier (EQP) (Receiver or Kit)
18	4-20 mA, RS485, HART (Receiver or Kit)
25	4-20 mA, RS485, HART w/Optional Relay Board (Receiver or Kit) - Ex d only

TYPE	APPROVAL AGENCY
W	FM/CSA/ATEX/CE

TYPE	CLASSIFICATION
1	Division/Zone Ex de
2	Division/Zone Ex d

TYPE	CONFIGURATION
S	Transmitter/Receiver/Mounting Hardware
T	Transmitter Module Only
R	Receiver Module Only

Complete Open Path Eclipse Kits

Model	Part Number	Threads	EQP	Relay Output	Ex de	Ex d	FM/CSA/ ATEX/CE	Shipping Weight
OPECLS2N18W1S	007744-050	3/4 NPT			X		X	75 lb (34 kg)
OPECLS2M18W1S	007744-051	M25			X		X	75 lb (34 kg)
OPECLS2N25W2S	007744-052	3/4 NPT		X		X	X	75 lb (34 kg)
OPECLS2M25W2S	007744-053	M25		X		X	X	75 lb (34 kg)
OPECLS2N14W1S	007744-054	3/4 NPT	X		X		X	75 lb (34 kg)
OPECLS2M14W1S	007744-055	M25	X		X		X	75 lb (34 kg)

Spare Transmitter and Receiver Modules for OPECL

Model	Part Number	Threads	Ex de	Ex d	FM/CSA/ ATEX/CE	Shipping Weight
OPECLS2N00W1T	007914-052	3/4 NPT	X		X	75 lb (34 kg)
OPECLS2M00W1T	007914-053	M25	X		X	75 lb (34 kg)
OPECLS2N00W2T	007914-056	3/4 NPT		X	X	30 lb (14 kg)
OPECLS2M00W2T	007914-057	M25		X	X	30 lb (14 kg)

Model	Part Number	Threads	EQP	Relay Output	Ex de	Ex d	FM/CSA/ ATEX/CE	Shipping Weight
OPECLS2N18W1R	007915-054	3/4 NPT			X		X	75 lb (34 kg)
OPECLS2M18W1R	007915-055	M25			X		X	75 lb (34 kg)
OPECLS2N25W2R	007915-056	3/4 NPT		X		X	X	75 lb (34 kg)
OPECLS2M25W2R	007915-057	M25		X		X	X	75 lb (34 kg)
OPECLS2N14W1R	007915-064	3/4 NPT	X		X		X	75 lb (34 kg)
OPECLS2M14W1R	007915-065	M25	X		X		X	75 lb (34 kg)

OPECL Accessories

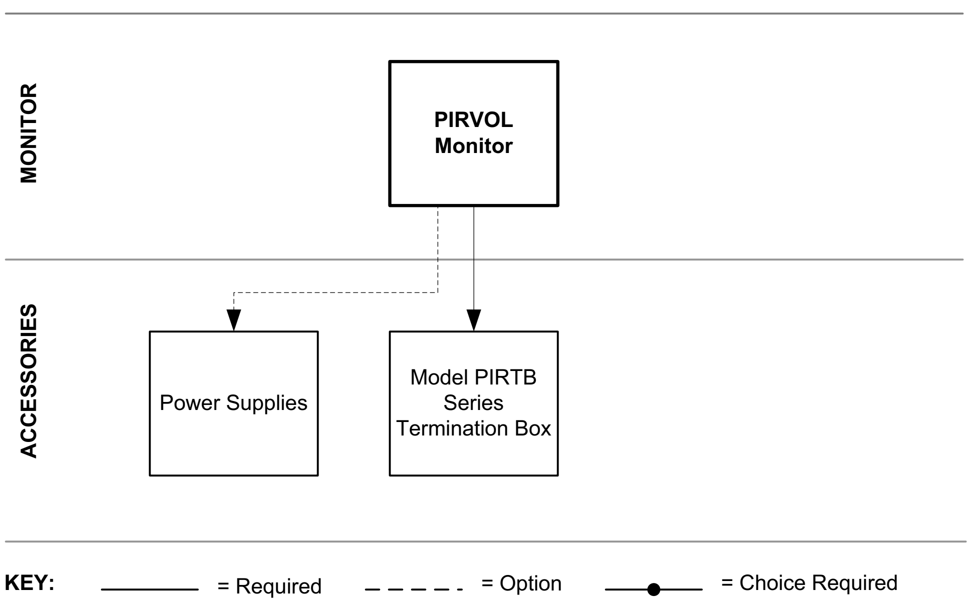
Part Number	Description
007902-002	System Test Film, 1.1-1.5 LFL-meter signal output
007902-003	System Test Film, 1.9-2.5 LFL-meter signal output
009761-001	Thermal Shield for one module (two shields required per complete OPECL system)
008925-002	Spare electronics/lamp module for OPECL transmitter
008926-002	Spare electronics module for OPECL receiver
008987-001	Aperture Kit, OPECL, SS
009296-001	Aperture Kit, OPECL, Plastic
009104-001	OPECL Alignment Telescope
009186-001	Spare Pan-Tilt Mounting Kit (for one OPECL module only)
009246-001	Low Range OPECL Gas Test Cell
009246-002	High Range OPECL Gas Test Cell
009762-002	50% Beam Block Tool
103346-007	Model 375 HART handheld communicator (includes OPECL config software)
103578-001	Antisieze Lubricant Packet

PIRVOL Infrared Hydrocarbon Gas Process Monitor



PIRVOL Infrared Hydrocarbon Gas Process Monitor (Spec Sheet: 90-1137) is a point-type, infrared gas process monitor designed for use in extractive vapor sampling applications. All PIRVOL models provide a continuous 4-20 milliampere signal output that is proportional to a 0-90% by volume hydrocarbon vapor concentration. Each unit is provided with a sealed, aluminum vapor sampling enclosure fitted with brass compression tubing fittings (0.25 inch o.d. tubing) that are used to attach vapor sample stream inlet and exhaust lines. The PIRVOL-LT model is optimized for natural gas well-logging applications where accurate measurement of light hydrocarbon vapors such as methane and ethane is desired. The PIRVOL-VR model is optimized for gasoline vapor recovery applications where an accurate measurement of heavy hydrocarbon gases is required.

NOTE: External vapor sampling conditioning and control equipment is generally required for proper operation of the PIRVOL gas monitors.



PIRVOL Model Matrix

MODEL	DESCRIPTION
PIRVOL	Point Infrared Volumetric Gas Process Monitor

TYPE	Application
LT	Light Hydrocarbon
HV	Heavy Hydrocarbon
VR	Vapor Recovery

TYPE	Material
A	Aluminum
S	Stainless Steel

TYPE	Thread Type
2	M20
3	3/4" NPT

TYPE	Sampling Cup
A	with Sampling Cup
B	without Sampling Cup (for replacement only)

TYPE	APPROVALS
C	CSA

PIRVOL Model Listings

PIRVOL Light Hydrocarbon Measurement Models

Model	Part Number	Description	Shipping Weight
PIRVOLLTA3AC	009884-001	AL, 3/4" NPT, with cup	2.0 lb (0.95 kg)
PIRVOLLTA2AC	009884-003	AL, 20 mm, with cup	2.0 lb (0.95 kg)
PIRVOLLTS3AC	009884-002	SS, 3/4" NPT, with cup	4.0 lb (2.0 kg)
PIRVOLLTS2AC	009884-004	SS, 20 mm, with cup	4.0 lb (2.0 kg)

PIRVOL Heavy Hydrocarbon Measurement Models

Model	Part Number	Description	Shipping Weight
PIRVOLHVA3AC	009885-001	AL, 3/4" NPT, with cup	2.0 lb (0.95 kg)
PIRVOLHVA2AC	009885-003	AL, 20 mm, with cup	2.0 lb (0.95 kg)
PIRVOLHVS3AC	009885-002	SS, 3/4" NPT, with cup	4.0 lb (2.0 kg)
PIRVOLHVS2AC	009885-004	SS, 20 mm, with cup	4.0 lb (2.0 kg)

PIRVOL Vapor Recovery Application Models

Model	Part Number	Description	Shipping Weight
PIRVOLVRA3AC	007129-001	AL, 3/4" NPT, with cup	2.0 lb (0.95 kg)
PIRVOLVRA2AC	007129-003	AL, 20 mm, with cup	2.0 lb (0.95 kg)
PIRVOLVRS3AC	007129-002	SS, 3/4" NPT, with cup	4.0 lb (2.0 kg)
PIRVOLVRS2AC	007129-004	SS, 20 mm, with cup	4.0 lb (2.0 kg)

PIRVOL Cover and Module Assemblies Only–No cup included

Model	Part Number	Description	Shipping Weight
PIRVOLLTA3BC	009884-005	AL, 3/4" NPT, without sampling cup	2.0 lb (0.95 kg)
PIRVOLLTA2BC	009884-007	AL, 20 mm, without sampling cup	2.0 lb (0.95 kg)
PIRVOLLTS3BC	009884-006	SS, 3/4" NPT, without sampling cup	4.0 lb (2.0 kg)
PIRVOLLTS2BC	009884-008	SS, 20 mm, without sampling cup	4.0 lb (2.0 kg)
PIRVOLHVA3BC	009885-005	AL, 3/4" NPT, without sampling cup	2.0 lb (0.95 kg)
PIRVOLHVA2BC	009885-007	AL, 20 mm, without sampling cup	2.0 lb (0.95 kg)
PIRVOLHVS3BC	009885-006	SS, 3/4" NPT, without sampling cup	4.0 lb (2.0 kg)
PIRVOLHVS2BC	009885-008	SS, 20 mm, without sampling cup	4.0 lb (2.0 kg)
PIRVOLVRA3BC	007129-005	AL, 3/4" NPT, without sampling cup	2.0 lb (0.95 kg)
PIRVOLVRA2BC	007129-007	AL, 20 mm, without sampling cup	2.0 lb (0.95 kg)
PIRVOLVRS3BC	007129-006	SS, 3/4" NPT, without sampling cup	4.0 lb (2.0 kg)
PIRVOLVRS2BC	007129-008	SS, 20 mm, without sampling cup	4.0 lb (2.0 kg)

PIRVOL Spare Parts

Part Number	Description	Shipping Weight
007128-001	Aluminum sample draw cup with O-rings and fittings	1.0 lb (0.45 kg)
007128-003	Stainless Steel sample draw cup with O-rings and fittings	2.0 lb (0.95 kg)
007128-002	O-ring kit (2 ea. O-rings)	<1.0 lb (<0.45 kg)
006680-001	Silicon Grease	<1.0 lb (<0.45 kg)
006297-003	Hydrophobic screen for PIRVOL	<1.0 lb (<0.45 kg)

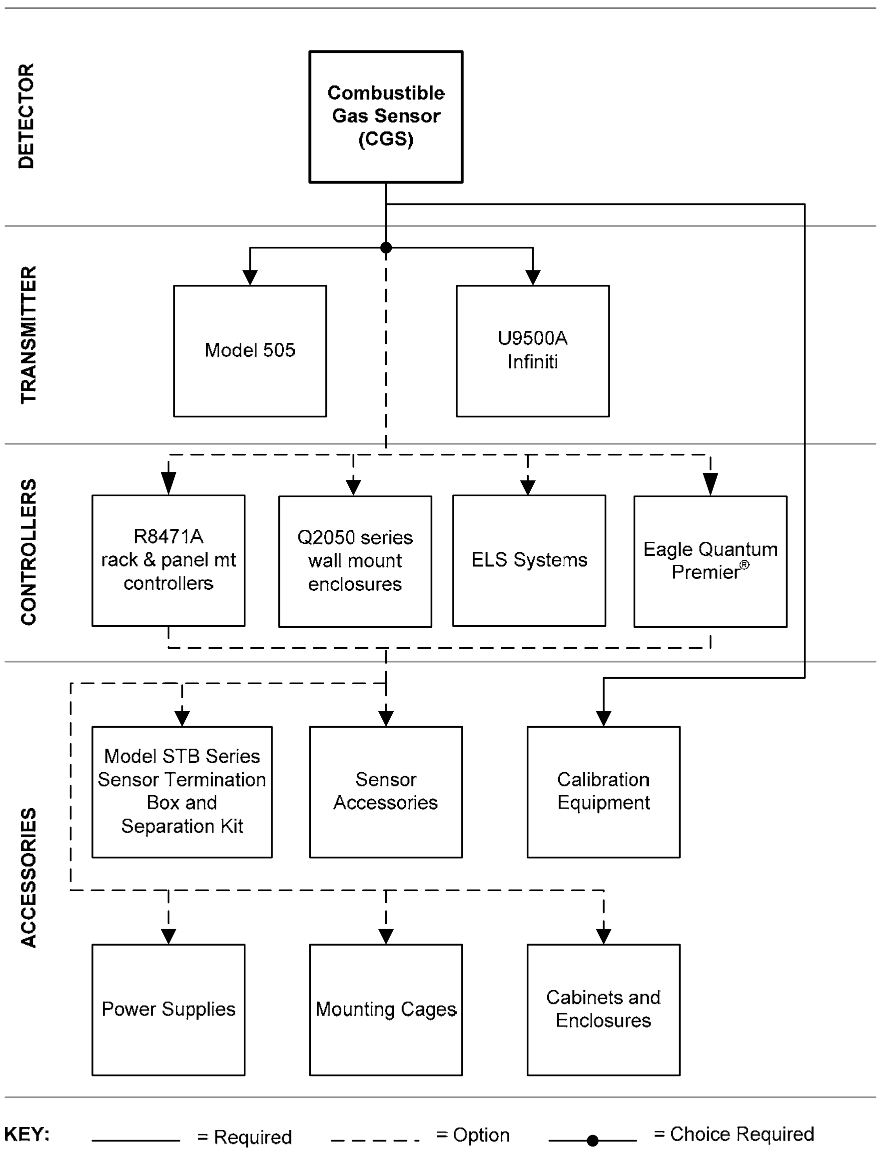
CATALYTIC

Combustible Gas Sensor (CGS)



Combustible Gas Sensor (CGS) (Spec Sheet: 90-1041). Stainless steel catalytic sensor that provides an accurate measurement of combustible gas concentration in the % LFL range. Requires Model 505, U9500A or DCUEX transmitter.

- Constant current or constant voltage options available
- Poison resistant construction
- 3/4” or 20 mm thread option
- Wire lead options of 6” or 30”
- Sensor Separation Termination Box (STB) option available
- Variety of special accessories available
- Two year rolling warranty



Combustible Gas Sensor for DCUEX, Models 505, 500, and K-Series (constant voltage) Transmitters

Model	Part Number	Replaces old catalytic sensor p/n	Threads	Lead Length	FM/CSA/ ATEX/CE	Russian
CGSS1A6V2R1X	006824-002	225006-002, 225957-001, 226530-001, 226531-001, 226931-001, 226931-002, 226999-002, 226999-004, 223106-002	3/4 in	6 in	X	
CGSS1A3V2R1X	006824-006	225006-005, 226530-004, 226531-002, 226931-003, 226931-004	3/4 in	30 in	X	
CGSS1C6V2R1X	006824-004	226999-010, 226999-013, 226999-018, 226999-019	20 mm	6 in	X	
CGSS1C6V2R1R	006824-904	226999-010, 226999-013, 226999-018, 226999-019	20 mm	6 in		X

NOTE: All CGS sensors have shipping weight of 1 lb (0.45 kg) and always require a transmitter (sold separately).

Combustible Gas Sensor for U9500A, U8700, 400, 405, 810, 820, and 880 (constant current) Transmitters

Model	Part Number	Replaces old catalytic sensor p/n	Threads	Lead Length	FM/CSA/ ATEX/CE	Russian
CGSS1A6C2R1X	006824-001	225006-004, 225957-002, 226530-003, 226531-003, 226931-005, 226931-006, 226999-011, 226999-012	3/4 in	6 in	X	
CGSS1A3C2R1X	006824-005	225006-003, 226530-005, 226531-004, 226931-007, 226931-008	3/4 in	30 in	X	
CGSS1C6C2R1X	006824-003	226999-008, 226999-020, 226999-014, 226999-021	20 mm	6 in	X	
CGSS1C6C2R1R	006824-903	226999-008, 226999-020, 226999-014, 226999-021	20 mm	6 in		X

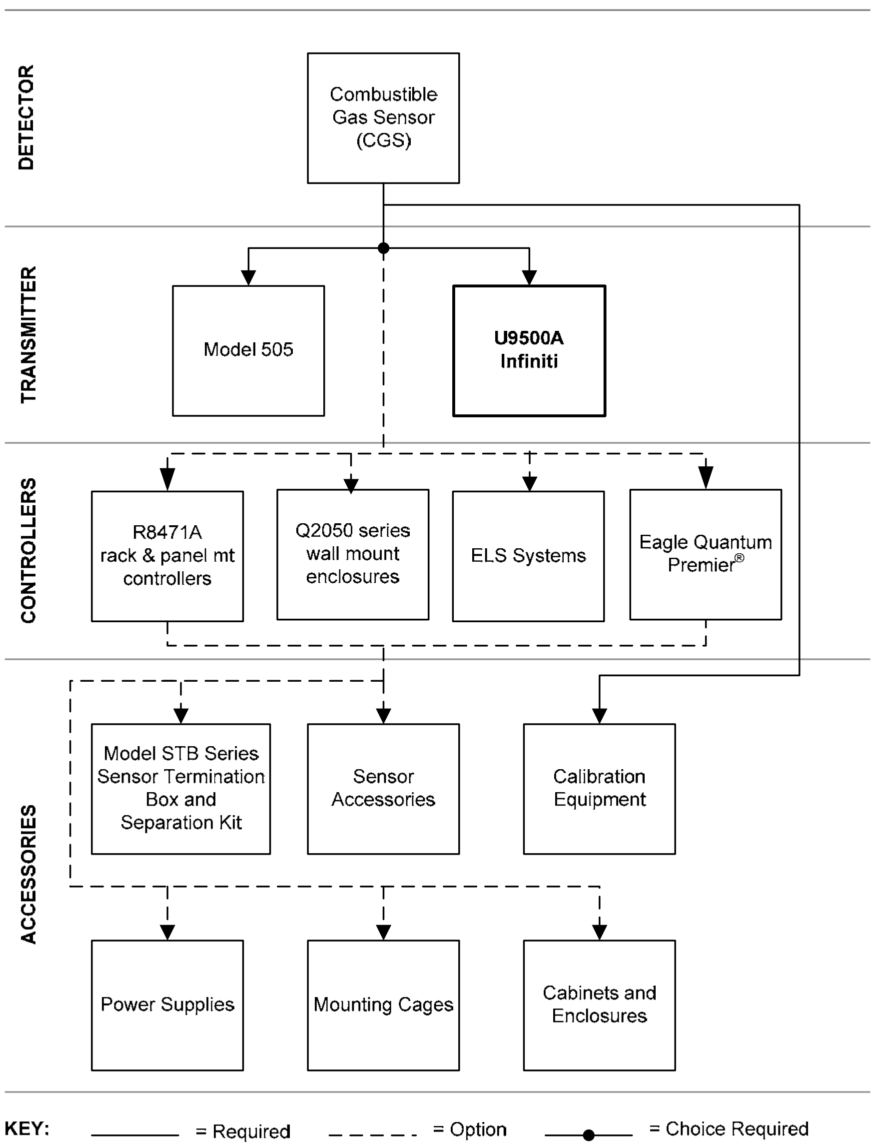
NOTE: All CGS sensors have shipping weight of 1 lb (0.45 kg) and always require a transmitter (sold separately).

U9500A Infiniti® Combustible Transmitters (sensor and junction box ordered separately)



U9500A Infiniti® Combustible Transmitters (Manual: 95-8444). For use with CGS, the Infiniti provides an analog signal output and onboard readout of detected gas level. A number of optional features are also available.

- Linear isolated 4-20 mA output
- Eight character LCD display
- Non-intrusive automatic calibration
- Sensor sensitivity check
- Base version provides analog output only
- Optional relay package (three alarm, one fault)
- Extensive fault diagnostics
- Sensor separation capability
- Optional reset/calibration pushbutton is preinstalled on some junction boxes (recommended where magnets are not preferred)



U9500 Infiniti Model Matrix

MODEL	DESCRIPTION		
U9500	Infiniti Gas Transmitter		
	TYPE	**GAS**	
	A10	Catalytic Combustible	
		TYPE	**OUTPUT**
		01 or 02	4-20 mA
		04	Relay and 4-20 mA

U9500A Infiniti® Combustible Gas Transmitter (junction box and sensor must be ordered separately)

Model	Part Number	Relays	FM/CSA/ ATEX/CE	Russian	Ship Weight
U9500A1001	006265-001		X		1 lb (0.46 kg)
U9500A1004	006265-007	X	X		1 lb (0.46 kg)
U9500A1001-R	006265-901			X	1 lb (0.46 kg)
U9500A1004-R	006265-907	X		X	1 lb (0.46 kg)

Junction Boxes for U9500 Infiniti®

Part Number	# of Ports	Thread	Material	FM/CSA/ ATEX/CE	Russian	Ship Weight
006264-029	5	3/4 NPT	AL	X		3.15 lb (1.43 kg)
006264-043	5	3/4 NPT	SS	X		9.5 lb (4.3 kg)
006264-044	5	M25	AL	X		3.15 lb (1.43 kg)
006264-045	5	M25	SS	X		9.5 lb (4.3 kg)
006264-944	5	M25	AL		X	3.15 lb (1.43 kg)
006264-945	5	M25	SS		X	9.5 lb (4.3 kg)
006264-034	5	3/4 NPT - PB*	AL	X		3.15 lb (1.43 kg)
006264-036	5	3/4 NPT - PB*	SS	X		9.5 lb (4.3 kg)

*Explosion-proof pushbutton occupies one of the available conduit entries.

Stop Plugs and Reducers

Part Number	Description	Ship Weight
101197-001*	Stop Plug, 3/4" NPT, AL	<1 lb (<0.45 kg)
101197-004*	Stop Plug, 3/4" NPT, SS	<1 lb (<0.45 kg)
103517-001	Stop Plug, M25, AL, IP66	<1 lb (<0.45 kg)
101197-003	Stop Plug, M25, SS, IP66	<1 lb (<0.45 kg)
102804-001	Reducer, M25 to M20, AL	<1 lb (<0.45 kg)
102804-003	Reducer, M25 to M20, SS	<1 lb (<0.45 kg)

* NEMA 4/IP66 rating requires addition of non-hardening thread sealant or Teflon tape

Typical U9500A Customer Proposal

Qty	Part Number	Description
1	006824-001	Catalytic Combustible Gas Sensor (CGS), 3/4" NPT, CC
1	006265-007	Infiniti transmitter for CGS w/ optional alarm relay outputs
1	006264-029	Infiniti Junction box, Aluminum, 5-port, 3/4 NPT threads
2	101197-001	Stop plug, 3/4 NPT, AL
Option		
Qty	Part Number	Description
1	226365-132	STB2A2NW Sensor Separation Termination Box
Accessories		
Qty	Part Number	Description
1	225130-001	Methane Gas Calibration Kit, 50% LEL methane
1	226166-001	Spare 103 L gas cylinder, 50% LEL methane

Model 505 Combustible Transmitter (includes junction box, sensor ordered separately)

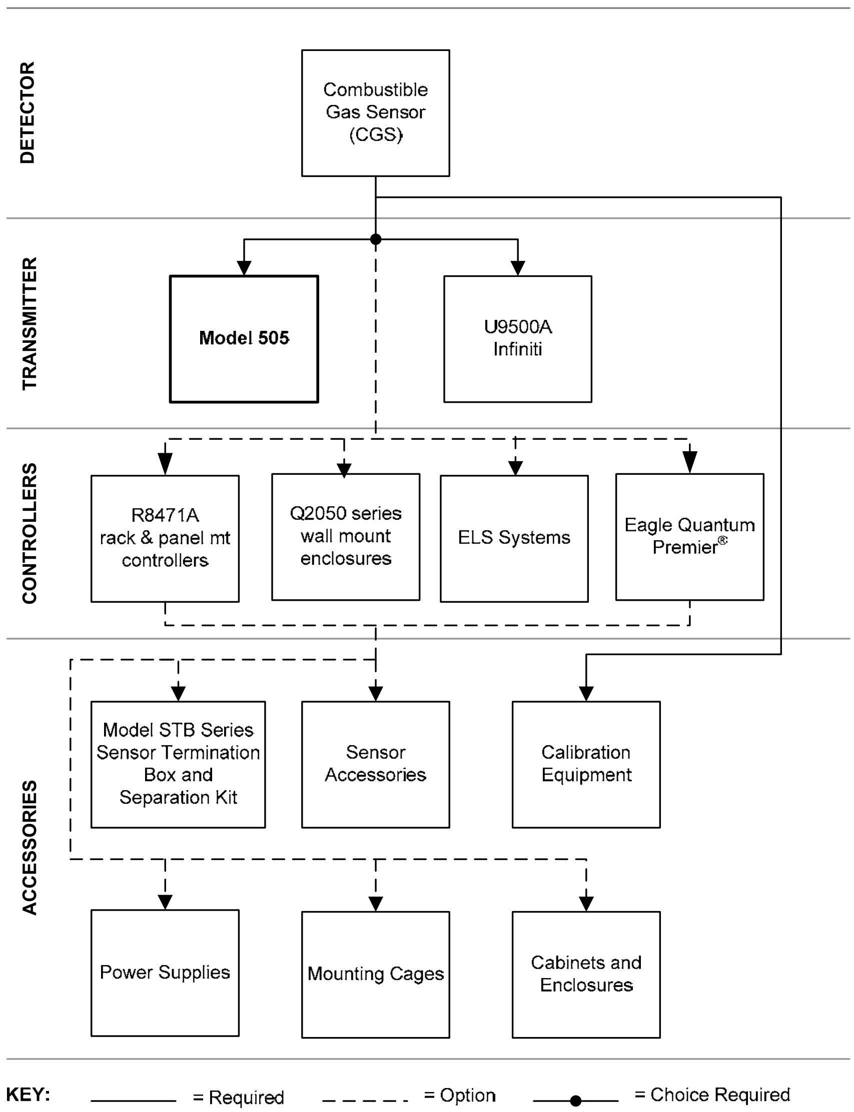


Model 505 Combustible Transmitter (Spec Sheet: 90-1114). Designed for use with CGS sensor, the 505 provides an analog signal output representing detected gas concentration. The 505 is always used with a gas controller, PLC or similar analog input signal receiver.

- 4-20 mA output
- Sensor sensitivity check function
- One person calibration
- Includes a variety of j-box options

Model 505 Retrofit Kits are available to upgrade an existing K-Series or Model 500 transmitter to the Model 505 transmitter using existing junction boxes and field wiring. The kit consists of:

- A transmitter board
- A label with calibration instructions for the junction box cover
- Instruction manual
- **NOTE:** Junction box not included.



Model 505 Model Matrix

Model	Description
505	Catalytic Combustible Gas Transmitter

Type	Enclosure Material
A	Aluminum
S	Stainless Steel

Type	Conduit Entries and Orientation
2	2-ports, ST-straight-through config (180 degree orientation)
3	2-ports, L-configuration (90 degree orientation)
4	3-ports, T-configuration
5	5-ports

Type	Thread Type
A	3/4" NPT
C	Metric M20/M25

Type	Output
2	4-20 mA

Type	Signal Loop Impedance
A	0-125 ohms (replaces K series)
B	100-500 ohms (replaces Model 500)

Type	Classification
1	Explosion-proof

Type	Approvals
W	FM/CSA/ATEX/CE
R	Russia

Model 505 Combustible Transmitter and Junction Box

Model	Part Number	Replaces	Material	Ports**	Conduit Entry*	Ohm Output	FM/CSA/ ATEX/CE
505A2A2A1W	006748-001	226585-001, 226555-113	AL	2 (ST)	3/4 NPT	125	X
505A3A2A1W	006748-002	226585-001, 226555-101	AL	2 (L)	3/4 NPT	125	X
505A2C2A1W	006748-003		AL	2 (ST)	M20	125	X
505A3C2A1W	006748-004	226585-001, 226555-107	AL	2 (L)	M20/M25	125	X
505A2A2B1W	006748-005	226673-001, 226555-113	AL	2 (ST)	3/4 NPT	500	X
505A3A2B1W	006748-006	226673-001, 226555-101	AL	2 (L)	3/4 NPT	500	X
505A2C2B1W	006748-007		AL	2 (ST)	M20	500	X
505A3C2B1W	006748-008	226673-001, 226555-107	AL	2 (L)	M20/M25	500	X
505S3A2A1W	006748-009	226585-001, 226555-111	SS	2 (L)	3/4 NPT	125	X
505S3C2A1W	006748-010	226585-001, 226555-112	SS	2 (L)	M20	125	X
505S3A2B1W	006748-011	226673-001, 226555-111	SS	2 (L)	3/4 NPT	500	X
505S3C2B1W	006748-012	226673-001, 226555-112	SS	2 (L)	M20	500	X
505A4A2A1W	006748-013		AL	3 (T)	3/4 NPT	125	X
505A4C2A1W	006748-014		AL	3 (T)	M20	125	X

NOTE: All 505 transmitters have a shipping weight of 8 oz. (0.23 kg)
* If two numbers are listed, the first number is sensor entry and second number is for field cable entry(ies).
** (L) designates 90-degree conduit entry orientation. (ST) designates straight-through or 180 degree orientation.

Model 505 Retrofit Kits

Part Number	For Use With	Ship Weight
006818-001	K series-125 ohms	5 oz (0.14 kg)
006818-002	500 model-500 ohms	5 oz (0.14 kg)

Model 505 Spare Parts

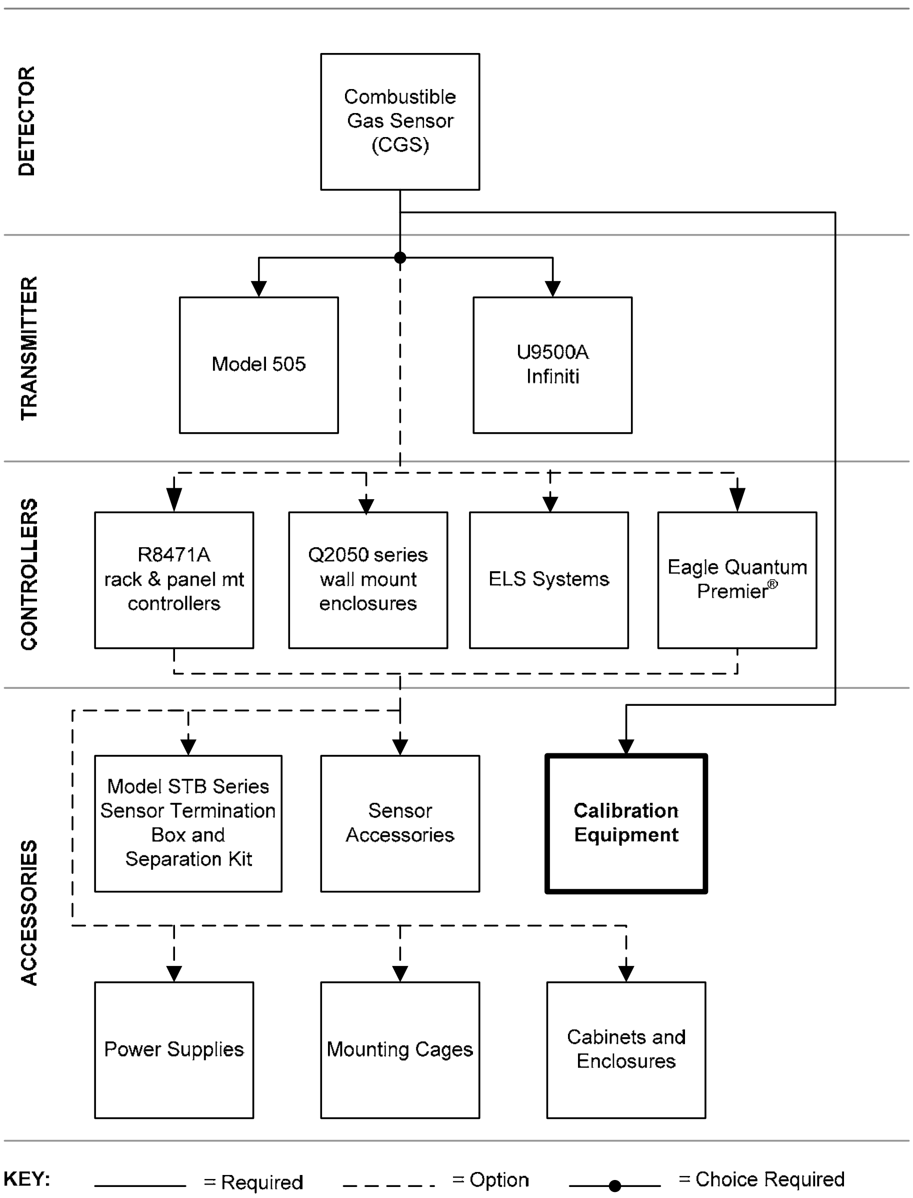
Part Number	Description	Output Load	Ship Weight
006817-001	505 pc board	125 ohms	8 oz (0.23 kg)
006817-002	505 pc board	500 ohms	8 oz (0.23 kg)
102883-001	505 Sensor Wiring Terminal Block	n/a	8 oz (0.23 kg)

Combustible Gas Calibration Kits



Combustible Gas Calibration Kits (Spec Sheet: 90-1059) for combustible gas sensors. Kits include sturdy plastic carrying case containing:

- Two 3.6 ft^3 (103 liters) cylinders of specified compressed gas
- Regulator/shutoff valve with gauge, 3-foot tubing and stainless steel CGS calibration cup
- Regulator provides fixed flow rate of 1 liter per minute designed for CGS sensors



Combustible Gas Calibration Kits Model Listing and Typical Proposals

Calibration Kits for Catalytic Sensor

Part Number	Gas	LFL	% Vol	Ship Weight
225130-002	Ethane	50%	1.5	11.5 lb (5.23 kg)
225130-902*	Ethane	50%	1.5	11.5 lb (5.23 kg)
225130-003	Ethylene	50%	1.35	11.5 lb (5.23 kg)
225130-005	Hydrogen	50%	2.0	11.5 lb (5.23 kg)
225130-006	Methane	20%	1.0	11.5 lb (5.23 kg)
225130-007	Methane	25%	1.25	11.5 lb (5.23 kg)
225130-008	Methane	35%	1.75	11.5 lb (5.23 kg)
225130-014	Methane	50%	2.2	11.5 lb (5.23 kg)
225130-914*	Methane	50%	2.2	11.5 lb (5.23 kg)
225130-001	Methane	50%	2.5	11.5 lb (5.23 kg)
225130-901*	Methane	50%	2.5	11.5 lb (5.23 kg)
225130-015	Propane	50%	0.85	11.5 lb (5.23 kg)
225130-915*	Propane	50%	0.85	11.5 lb (5.23 kg)
225130-004	Propane	50%	1.1	11.5 lb (5.23 kg)
225130-009	Empty kit–no cal gas			10 lb (4.6 kg)

* **NOTE:** These items are certified for Russian projects.

Replacement Gas Cylinders for all Combustible Gas Calibration Kits

Part Number	Gas	%LFL	% Vol	Ship Weight
226166-006	Air	N/A	20.9 Oxygen	1.5 lb (0.7 kg)
226166-002	Ethane	50%	1.5	1.5 lb (0.7 kg)
226166-902*	Ethane	50%	1.5	1.5 lb (0.7 kg)
226166-003	Ethylene	50%	1.35	1.5 lb (0.7 kg)
226166-005	Hydrogen	50%	2.0	1.5 lb (0.7 kg)
226166-007	Methane	20%	1.0	1.5 lb (0.7 kg)
226166-008	Methane	25%	1.25	1.5 lb (0.7 kg)
226166-009	Methane	35%	1.75	1.5 lb (0.7 kg)
226166-014	Methane	50%	2.2	1.5 lb (0.7 kg)
226166-914*	Methane	50%	2.2	1.5 lb (0.7 kg)
226166-001	Methane	50%	2.5	1.5 lb (0.7 kg)
226166-901*	Methane	50%	2.5	1.5 lb (0.7 kg)
226166-015	Propane	50%	0.85	1.5 lb (0.7 kg)
226166-915*	Propane	50%	0.85	1.5 lb (0.7 kg)
226166-004	Propane	50%	1.1	1.5 lb (0.7 kg)
226166-010	Propylene	50%	1.0	1.5 lb (0.7 kg)

* **NOTE:** These items are certified for Russian projects.

Calibration Kit Replacement Parts

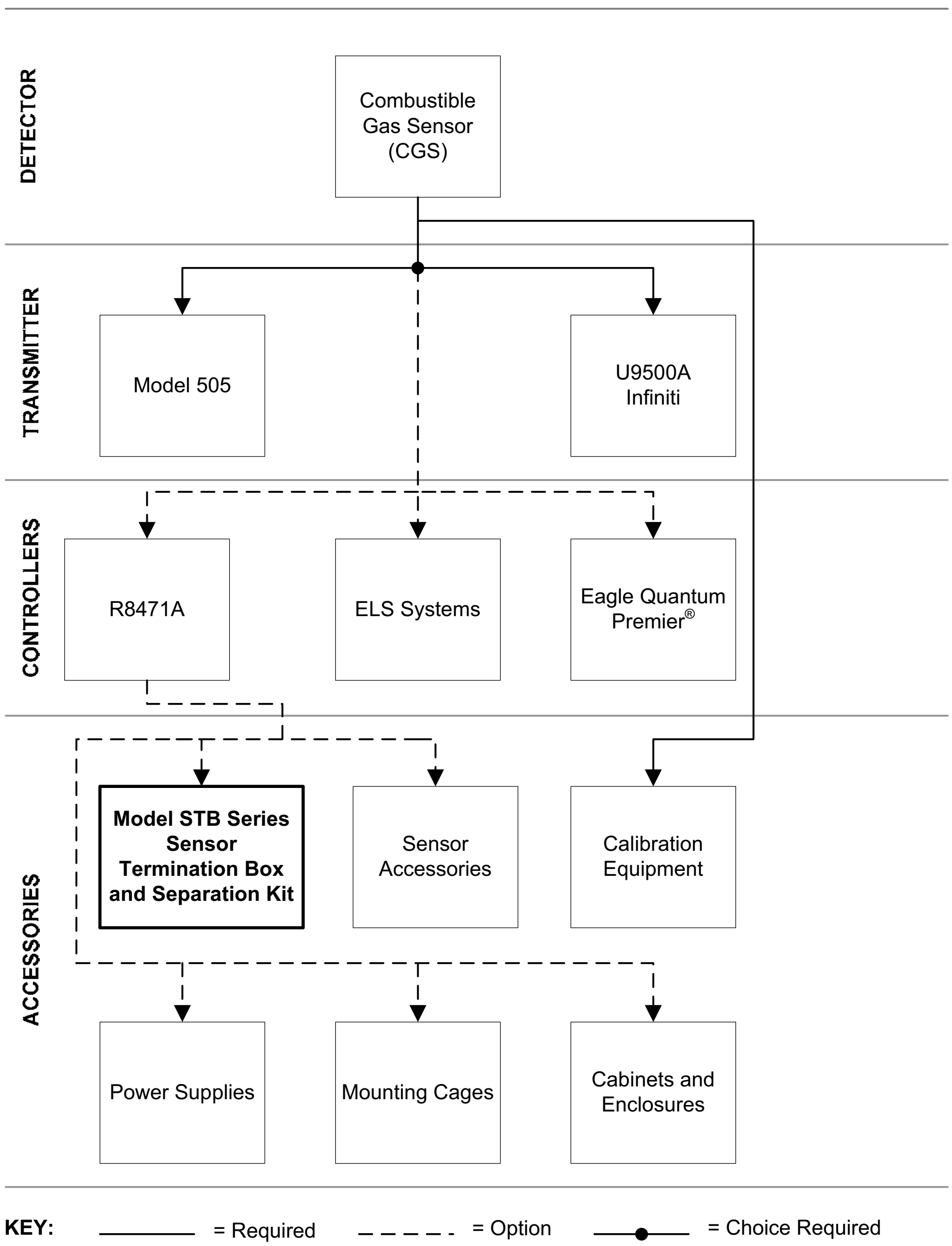
Part Number	Description	Ship Weight
004976-001	Standard calibration cup, SS (1)	8 oz (0.23 kg)
101678-007	3 Foot tubing	8 oz (0.23 kg)
162552-001	1 LPM Regulator for CGS sensors	8 oz (0.23 kg)
162553-001	Carrying Case	8 oz (0.23 kg)
225333-001	Cal screwdriver for remote cal transmitter	8 oz (0.23 kg)

Model STB Series Sensor Termination Box and Separation Kit



Model STB Series Sensor Termination Box and Separation Kit includes a junction box, proper connector board required hardware.

- Enables remote installation of sensor for optimum gas detection while offering easy calibration access to transmitter
- One sensor separation kit per sensor is required
- Optional remote calibration cups must be ordered separately (see CGS Accessories)
- Model 505 Transmitter Sensor separation wiring terminal block (part number 102883-001) is sold separately



STB Model Matrix

Model	Description					
STB	Sensor Termination Box					
	Type	**Compatibility**				
	1	Model 505 Catalytic Transmitter				
	2	Model U9500A Catalytic Transmitter				
	3	Model C706x electrochmical gas sensor/transmitter				
	4	10 terminal				
	5	12 terminal				
		Type	**Material**			
		A	Aluminum			
		S	Stainless Steel			
			Type	**# of Ports, thread type**		
			2M	2 PORT, M20/M25 at 90 degree orientation		
			2N	2 PORT, 3/4" NPT at 90 degree orientation		
			2S	2 PORT, M20 at 180 degrees vertical		
			2U	2 PORT, 3/4" NPT at 180 degree vertical		
			2X	2 PORT, M20 at 90 degree orientation		
			2Y	2 PORT, M25 at 90 degree orientation		
			3M	3 PORT, M20/M25		
			3N	3 PORT, 3/4" NPT		
			3Y	3 PORT, M25		
			5Y	5 PORT, M25		
			5N	5 PORT, 3/4" NPT		
			6Y	6 PORT, M25		
			6N	6 PORT, 3/4" NPT		
				TYPE	**APPROVAL AGENCY**	
				W	FM/CSA/ATEX/CE	
				R	Russia	

Model STB Series Sensor Termination Boxes and Separation Kits

Model	Part Number	Use With	Material	Threads**	Ports*	FM/CSA/ ATEX/CE	Russia	Ship Weight
STB1A2MW	226365-119	Model 505	AL	M20/M25	2 (L)	X		2.2 lb (1.0 kg)
STB1A2NW	226365-131	Model 505	AL	3/4 NPT	2 (L)	X		2.2 lb (1.0 kg)
STB1A2SW	226365-123	Model 505	AL	M20	2 (ST)	X		2.2 lb (1.0 kg)
STB1A2UW	226365-137	Model 505	AL	3/4 NPT	2 (ST)	X		2.2 lb (1.0 kg)
STB1S2NW	226365-140	Model 505	SS	3/4 NPT	2 (L)	X		3.0 lb (1.4 kg)
STB1S2XW	226365-121	Model 505	SS	M20	2 (L)	X		3.0 lb (1.4 kg)
STB2A2MR	226365-927	U9500A/DCUEX	AL	M20/M25	2 (L)		X	2.2 lb (1.0 kg)
STB2A2MW	226365-127	U9500A/DCUEX	AL	M20/M25	2 (L)	X		2.2 lb (1.0 kg)
STB2A2NW	226365-132	U9500A/DCUEX	AL	3/4 NPT	2 (L)	X		2.2 lb (1.0 kg)
STB2A2UW	226365-136	U9500A/DCUEX	AL	3/4 NPT	2 (ST)	X		2.2 lb (1.0 kg)
STB2A5NW	226365-144	U9500A/DCUEX	AL	3/4 NPT	5	X		2.2 lb (1.0 kg)
STB2S2MW	226365-135	U9500A/DCUEX	SS	M20/M25	2 (L)	X		3.0 lb (1.4 kg)
STB2S2NW	226365-142	U9500A/DCUEX	SS	3/4 NPT	2 (L)	X		3.0 lb (1.4 kg)
STB4A3YR	226365-928	10 terminal	AL	M25	3 (T)		X	2.2 lb (1.0 kg)
STB4S3YR	226365-929	10 terminal	SS	M25	3 (T)		X	3.0 lb (1.4 kg)
STB5A2NW	226365-520	12 terminal	AL	3/4 NPT	2 (L)	X		2.2 lb (1.0 kg)
STB5A2YW	226365-510	12 terminal	AL	M25	2 (L)	X		2.2 lb (1.0 kg)
STB5A3NW	226365-521	12 terminal	AL	3/4 NPT	3 (T)	X		2.2 lb (1.0 kg)
STB5A3YW	226365-511	12 terminal	AL	M25	3 (T)	X		2.2 lb (1.0 kg)
STB5A5NW	226365-522	12 terminal	AL	3/4 NPT	5	X		2.2 lb (1.0 kg)
STB5A5YW	226365-512	12 terminal	AL	M25	5	X		2.2 lb (1.0 kg)
STB5A6NW	226365-523	12 terminal	AL	3/4 NPT	6	X		2.2 lb (1.0 kg)
STB5A6YW	226365-513	12 terminal	AL	M25	6	X		2.2 lb (1.0 kg)
STB5S2NW	226365-540	12 terminal	SS	3/4 NPT	2 (L)	X		3.0 lb (1.4 kg)
STB5S2YW	226365-530	12 terminal	SS	M25	2 (L)	X		3.0 lb (1.4 kg)
STB5S3NW	226365-541	12 terminal	SS	3/4 NPT	3 (T)	X		3.0 lb (1.4 kg)
STB5S3YW	226365-531	12 terminal	SS	M25	3 (T)	X		3.0 lb (1.4 kg)
STB5S5NW	226365-542	12 terminal	SS	3/4 NPT	5	X		3.0 lb (1.4 kg)
STB5S5YW	226365-532	12 terminal	SS	M25	5	X		3.0 lb (1.4 kg)

* (L) designates 90 degree conduit entry orientation, (ST) designates straight-through orientation, (T) designates 3-port orientation.
** If two numbers are listed, the first number is for detector entry and the second number is for field cabling.

Duct Mount and Sample Draw Assemblies for CGS



Direct Duct Mount Assembly (Spec Sheet: 90-1046). For mounting combustible sensors to air handling duct work. The Direct Duct Mount CGS assembly enables combustible gas detection in air handling, heating, ventilating, and air conditioning ducts. Designed for flat surface mounting only.

- Seal gaskets provided to prevent leakage
- Circular duct wall cutout required
- Positive pressure ducts only
- Calibration gas inlet enables in-situ calibration
- Flexible conduit/cabling recommended to enable sensor removal from assembly



Combustible Model Q811 Duct Mount Enclosure (Manual: 95-8459)
The Q811 provides combustible gas detection in air handling, heating, ventilating, and air conditioning ducts.

- Designed for flat surface mounting only
- Stainless steel NEMA 4X enclosure
- Includes catalytic bead sensor
- Stainless steel sample inlet tube spans the duct's cross section
- 1 foot tube returns the sample
- Requires a 600–4000 fpm velocity



Sample Draw Cup Assembly for CGS
The Sample Draw cup assembly for CGS provides a sealed enclosure with compression fittings to enable the CGS to be used as part of an extractive gas sampling system.

- Aluminum enclosure with seals provides airtight flow chamber
- Brass compression fittings accept 1/4" OD tubing
- Threaded cover enables sensor removal
- Sampling system hardware required for proper operation

Duct Mount Assemblies for CGS

Part Number	Material	Ship Weight	
226846-001	AL	6 oz (0.17 kg)	
226846-008	SS	1 lb (0.46 kg)	

Model Q811 Combustible CGS Duct Mount Enclosure

Part Number	Material	Ship Weight	
000811-001	SS	10 lb (4.5 kg)	

1 inlet and 1 return tube included at no extra cost. Specify length of inlet tube at time of order (1, 3, 6, 10 or 13 ft).
Includes preinstalled CGS catalytic sensor. **Does not include transmitter**.

Model Q811 Sample Tubes

Part Number	Material	Ship Weight	Length
000214-126	SS	8 oz (0.23 kg)	1 ft
000214-127	SS	1 lb (0.45 kg)	3 ft
000214-128	SS	3 lb (1.35 kg)	6 ft
000214-129	SS	6 lb (2.4 kg)	10 ft
000214-180	SS	9 lb (4.0 kg)	13 ft
000214-130*	SS	8 oz (0.23 kg)	1 ft

* Return tube

Sample Draw Cup Assembly for CGS

Part Number	Material	Ship Weight	
009171-001	AL	1 lb (0.45 kg)	

CGS Accessories: Rain Shields, Splash Guards, Dust Covers, Remote Calibration Cups



Rain Shields (Spec Sheet: 90-1046) protect combustible sensors from rain and snow.



Splash Guards (Spec Sheet: 90-1046) protect combustible sensors from ingress due to rain or splashing water.



Dust Covers (Spec Sheet: 90-1046) protect sensors against dust, oil, and high wind environments. Porex and stainless steel filters available.



Remote Calibration cups provide the means to apply calibration to a CGS or toxic gas sensor from a remote location. Tubing not included. Options include barbed fitting or ¼" compression fitting.

NOTE: Only one accessory recommended to be fitted per catalytic sensor.

Sensor Accessories

Rain Shields

Part Number	Material	Ship Weight
226349-001	AL	6 oz (0.17 kg)
226349-002	SS	6 oz (0.17 kg)

Splash Guard

Part Number	Material	Ship Weight
006491-001	AL	2 lb (0.95 kg)

Dust Covers

Part Number	Material	Ship Weight
225312-001	SS	2 oz (0.09 kg)
226190-001	Porex*	2 oz (0.09 kg)

* Porex not recommended for temperatures above 75 degrees Celsius.

Remote Calibration Cups

Part Number	Use	Filter Material	Tube Fitting Type	Ship Weight
225777-001	Indoor	Porex*	Barbed	0.5 lb (0.14 kg)
004996-001	Indoor	Porex*	Compression	0.5 lb (0.14 kg)
006618-001	Outdoor	SS Screen	Barbed	0.5 lb (0.14 kg)
006618-002	Outdoor	SS Screen	Compression	0.5 lb (0.14 kg)

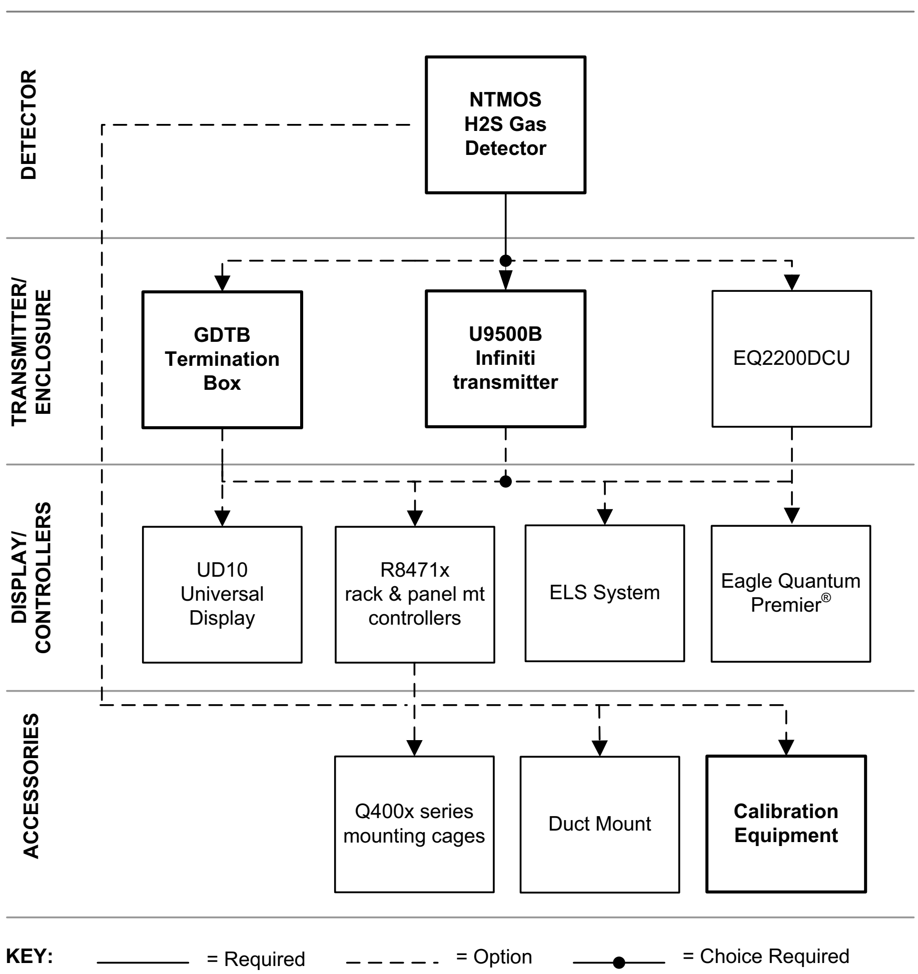
* Porex not recommended for temperatures above 75 degrees Celsius.

NTM Nanotechnology MOS H2S Gas Sensor



Model NTM Nanotechnology MOS H_2S Gas Sensor (Spec Sheet: 90-1195). Stainless steel, nanotechnology MOS sensor that provides an accurate measurement of Hydrogen Sulfide (H_2S) gas.

- 4-20 mA output
- Approved as a stand alone sensor
- Performance approved to ANSI/ISA 92.0.01
- Fast speed of response – T50 < 5 seconds
- Approved with the U9500B Infiniti transmitter
- Use with FlexVu UD10 Universal Display and/or GDTB



NTM Model Structure

MODEL	DESCRIPTION				
NTM	Nanotechnology MOS H2S Gas Sensor				
	TYPE	THREAD TYPE			
	1A	3/4 NPT			
		TYPE	MEASUREMENT OPTIONS		
		10	0-100 ppm		
			TYPE	APPROVALS	
			F	FM	

NTM Gas Sensor

Model	Part Number	Thread	ppm	Ship Weight
NTM1A10F	009910-001	3/4 NPT	0-100%	1 lb (0.45 kg)

U9500B Infiniti® Transmitter

Model	Part Number	Relay	FM/CSA ATEX/CE	Ship Weight
U9500B2002	006265-002		X	1 lb (0.46 kg)
U9500B2004	006265-008	X	X	1 lb (0.46 kg)

Junction Box for U9500B Infiniti® Transmitter

Part Number	Ports	Thread	Material	FM/CSA ATEX/CE	Ship Weight
006264-029	5	3/4 NPT	AL	X	3.15 lb (1.43 kg)
006264-043	5	3/4 NPT	SS	X	9.5 lb (4.3 kg)

GDTB Termination Box

Model	Part Number	Material	Thread	FM/CSA ATEX/CE	Cover	Ports	Ship Weight
GDTBA5NW1V	009957-001	AL	3/4 NPT	X	Short	5	2 lb (0.95 kg)
GDTBS5NW1V	009958-001	SS	3/4 NPT	X	Short	5	9 lb (4.1 kg)
GDTBA5NW3V	009959-001	AL	3/4 NPT	X	Tall	5	2.2 lb (1kg)
GDTBS5NW3V	009960-001	SS	3/4 NPT	X	Tall	5	9.5 lb (4.3 kg)

NTMOS Accessories

Part Number	Description	Ship Weight
007098-005	Ampoule Calibration Kit - 50 ppm H2S	2 lb (0.95 kg)
225741-001	H2S Ampoule, 50 ppm	<1 lb (<0.45 kg)
226846-010	Duct Mount, SS	<1 lb (<0.45 kg)
101197-001*	Stop Plug, 3/4" NPT, AL	<1 lb (<0.45 kg)
101197-004*	Stop Plug, 3/4" NPT, SS	<1 lb (<0.45 kg)

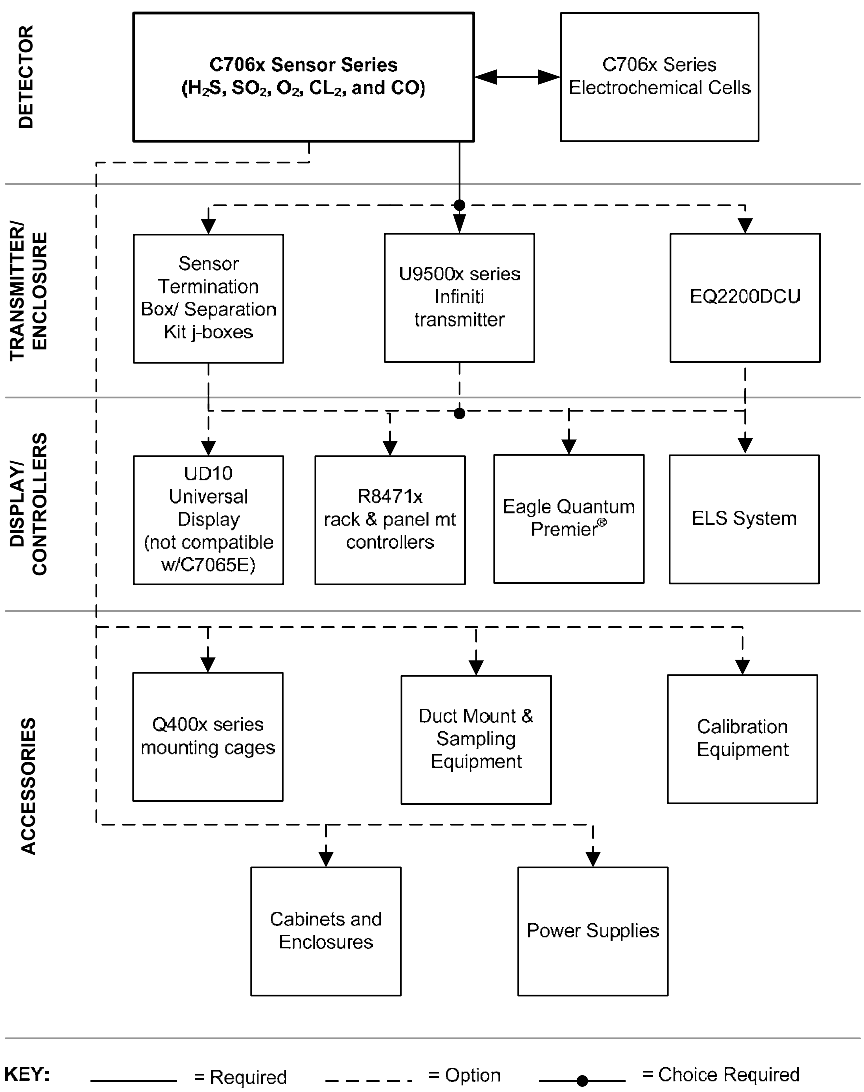
* NEMA 4/IP66 rating requires addition of non-hardening thread sealant or Teflon tape.

C706X Sensor/Transmitter



C706X Sensor/Transmitter (Spec Sheet: 90-1079) housing. Two-wire, stainless steel or aluminum toxic gas detector with 3/4" NPT or 20 mm threads. Purchase EC cell separately for monitoring H_2S, O_2, CL_2, CO and SO_2 toxic gases.

- 4-20 mA output is proportional to EC cell measurement range
- Electrochemical cell sold separately
- For use with:
  UD10 Universal Display
  U9500 Infiniti Transmitter
  R8471X Toxic Controller
  STB Sensor Termination Box
  DCU Digital Communication Unit
- Two year warranty (except for C7065E and C7067E which carry the standard warranty)
- Optional measurement ranges available for H_2S and CO versions
- Optional portable sensor calibrator available for standalone sensor applications
- Hydrophobic filter provided on C7064 housings



C706X Electrochemical Sensor Housings (sensor cell sold separately)

Model	Part Number	Toxic Gas	Enclosure Threads	Enclosure Material	Measurement Range	Approvals	Other
C7064C4012*	004539-004	Hydrogen Sulfide	3/4 NPT	SS	All	CSA	IS
C7064E4012	004539-009	Hydrogen Sulfide	3/4 NPT	SS	All	FM/CSA/ATEX/CE	Groups C, D
C7064C5014*	004539-014	Hydrogen Sulfide	M20	SS	All	CSA	IS
C7064E5012	004539-102	Hydrogen Sulfide	M20	SS	All	FM/CSA/ATEX/CE	
C7064E6031	004539-103	Hydrogen Sulfide	M20	SS	All	CSA/ATEX/CE	
C7064E6012	004539-104	Hydrogen Sulfide	3/4 NPT	SS	All	CSA/ATEX/CE	CEPEL
C7064E5014	004539-105	Hydrogen Sulfide	3/4 NPT	SS	All	FM/CSA/ATEX/CE	Groups B, C, D
C7067E7012*	005931-001	Chlorine	3/4 NPT	AL	0-10 ppm	CSA	IS
C7067E7031*	005931-002	Chlorine	M20	AL	0-10 ppm	CSA	IS
C7066E6012	005736-001	Carbon Monoxide	3/4 NPT	AL	0-100 ppm	CSA	
C7066E6031	005736-002	Carbon Monoxide	M20	AL	0-100 ppm	CSA	
C7066E7012	005736-003	Carbon Monoxide	3/4 NPT	AL	0-500 ppm	CSA	
C7066E7031	005736-004	Carbon Monoxide	M20	AL	0-500 ppm	CSA	
C7066E8012	005736-005	Carbon Monoxide	3/4 NPT	AL	0-1000 ppm	CSA	
C7066E8031	005736-006	Carbon Monoxide	M20	AL	0-1000ppm	CSA	
C7068E8012	006398-001	Sulfur Dioxide	3/4 NPT	SS	0-100 ppm	CSA	
C7068E8031	006398-002	Sulfur Dioxide	M20	SS	0-100 ppm	CSA	
C7065E5012	005723-001	Oxygen	3/4 NPT	AL	0-25% v/v	CSA	
C7065E5031	005723-002	Oxygen	M20	AL	0-25% v/v	CSA	

* These gas detectors are intrinsically-safe only when used with appropriate transmitter or external IS barrier. For use with U8800/U8810 only.

NOTE: All C706x housings above require an electrochemical sensor cell (not included) for proper operation.
Shipping weight of all C706x gas detector housings is 2.5 lb (1.28 kg).

TOXICS

Electrochemical Sensor Cells for use with Model C706x housings

Electrochemical sensor cells are provided for use with the C706X gas detector housings.
Be sure to use the proper electrochemical sensor cell with the proper model C706x housing.

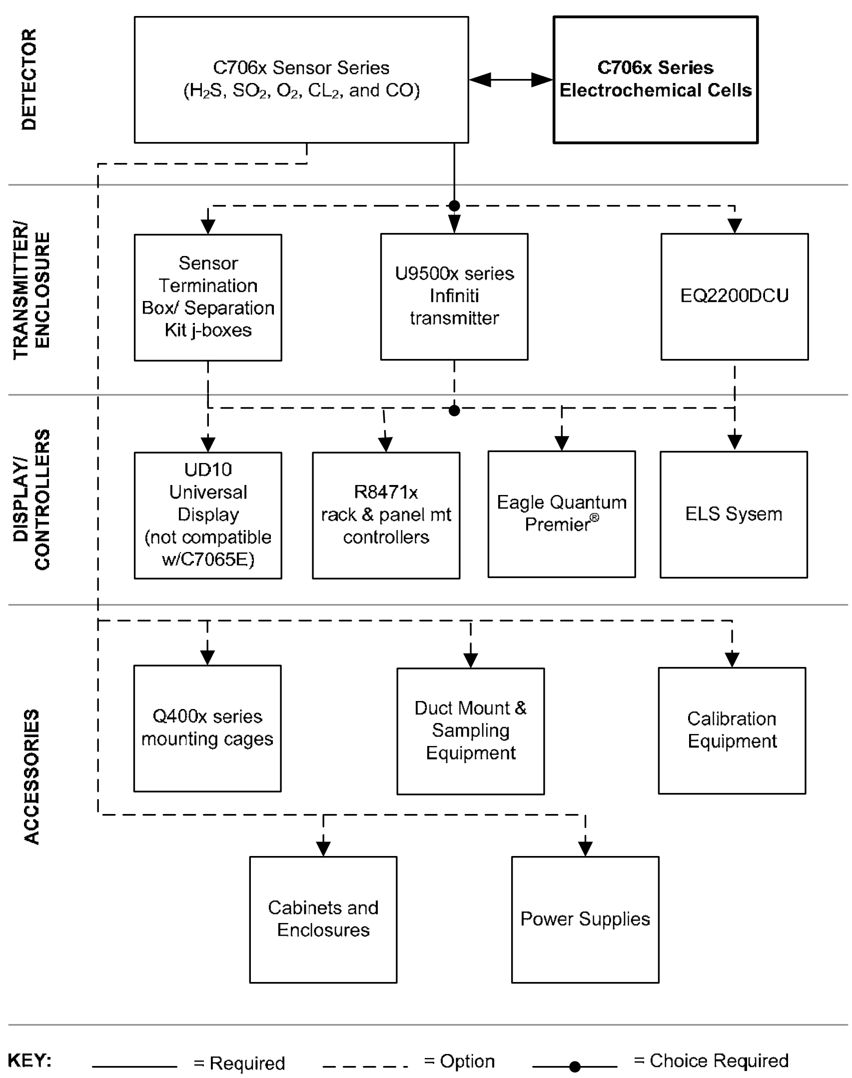






NOTE: Carbon monoxide sensors are available in three ranges–be sure to use proper CO cell with the matching C7066 housing.

All sensors are shipped in a sealed bag. Store in a cool, dry place until installation/commissioning is required.



Electrochemical Sensor Cell

Part Number	Toxic Gas	Measurement Range (PPM)	FM/CSA/ ATEX/CE
005434-003	Hydrogen Sulfide	0-20	X
005434-004	Hydrogen Sulfide	0-50	X
005434-002	Hydrogen Sulfide	0-100	X
005932-001	Chlorine	0-10	
005744-001	Carbon Monoxide	0-100	
005744-002	Carbon Monoxide	0-500	
005744-003	Carbon Monoxide	0-1000	
006400-001	Sulfur Dioxide	0-100	
005724-001	Oxygen	0-25% v/v	

Shipping weight for sensor cells is 2 oz. (0.1 kg)

Typical Model C7064E H_2S Gas Detector Customer Proposal

Qty	Model	P/N	Description
1	C7064E5014	004539-105	H_2S gas detector housing, Stainless steel, 3/4" NPT
1	-	005434-002	Electrochemical H2S sensor cell, 0-100 ppm
1	U9500B2004	006265-008	Infiniti transmitter with relays for C7064E H_2S
1	-	006264-029	Alum J-box for U9500B, 5-port 3/4" NPT
2	-	101197-001	Stop plug, 3/4 NPT, AL

Typical Spare Parts

Qty	Part Number	Description
1	004532-002	Hydrophobic filter
1	005434-002	Spare Electrochemical H_2S sensor cell, 0-100 ppm

Typical Accessories

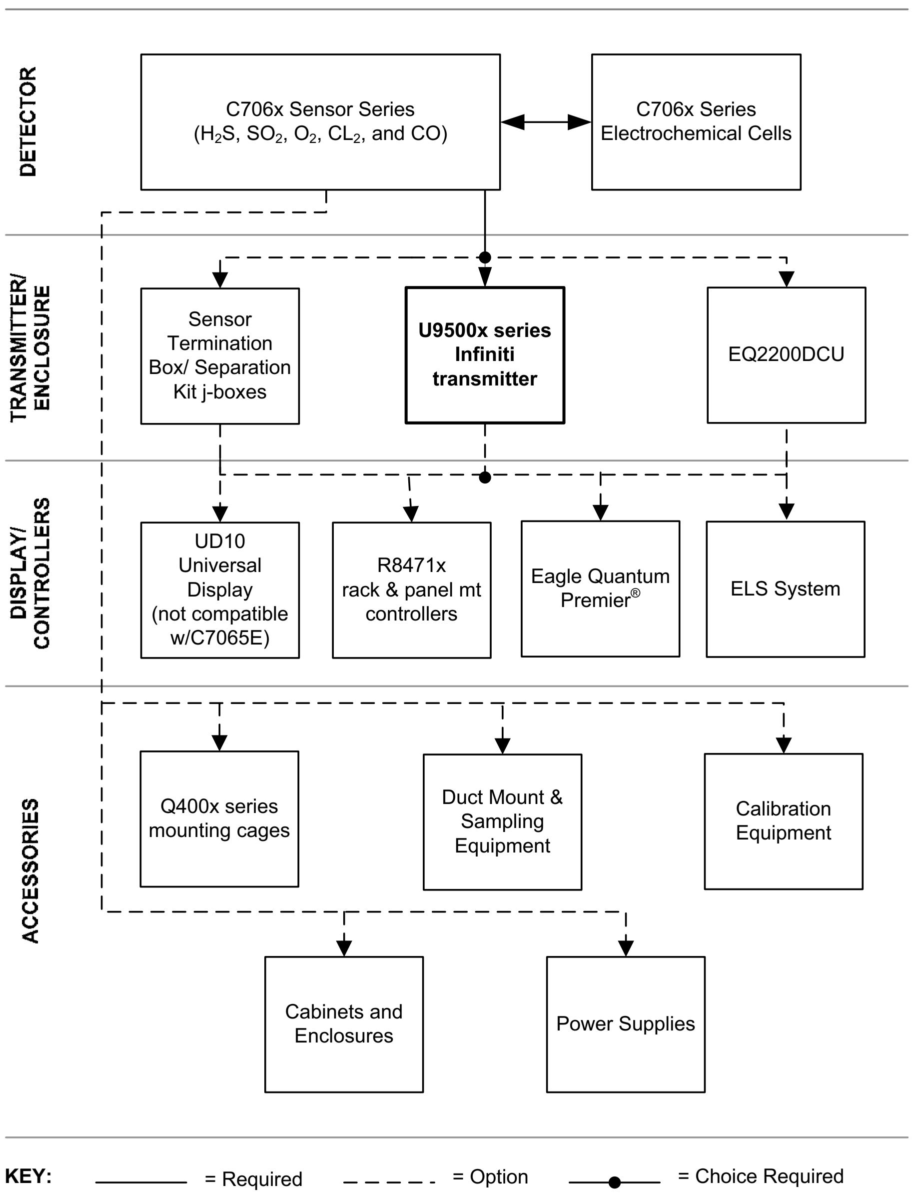
Qty	Part Number	Description
1	227115-001	50 ppm H_2S calibration gas kit
1	227117-001	Spare cylinder, 50 ppm H_2S gas

U9500 Infiniti® Transmitter



U9500 Infiniti® Transmitter (Spec Sheet: 90-1099). For use with a single C706x electrochemical toxic gas detector.

- Linear isolated 4-20 mA output
- Eight character LCD display
- Non-intrusive automatic calibration
- Easy push button configuration
- Base version provides analog output only
- Optional relay package (three alarm, one fault)
- Extensive fault diagnostics
- Two-, three- or five-port junction box option
- Stainless steel or aluminum junction box option
- Optional reset/calibration pushbutton is preinstalled on some junction boxes (recommended where magnets are not preferred)



U9500 Model Matrix

MODEL	DESCRIPTION		
U9500	Infiniti Gas Transmitter		
	TYPE	**GAS**	
	B20	H2S	
	C30	Oxygen	
	D40	Chlorine	
	E50	CO	
	F60	SO2	
	G60	NO2	
		TYPE	**OUTPUT**
		01 or 02	4-20 mA
		04	Relay and 4-20 mA

U9500 Infiniti® Toxic Transmitter (junction boxes must be ordered separately)

Model	Part Number	Used with sensor type:	Relay	FM/CSA/ ATEX/CE	Ship Weight
U9500B2002	006265-002	C7064E-Hydrogen Sulfide		X	1 lb (0.46 kg)
U9500B2004	006265-008	C7064E-Hydrogen Sulfide	X	X	1 lb (0.46 kg)
U9500D4002	006265-004	C7067E-Chlorine			1 lb (0.46 kg)
U9500D4004	006265-010	C7067E-Chlorine	X		1 lb (0.46 kg)
U9500E5002	006265-005	C7066E-Carbon Monoxide			1 lb (0.46 kg)
U9500E5004	006265-011	C7066E-Carbon Monoxide	X		1 lb (0.46 kg)
U9500F6002	006265-015	C7068E-Sulfur Dioxide			1 lb (0.46 kg)
U9500F6004	006265-016	C7068E-Sulfur Dioxide	X		1 lb (0.46 kg)
U9500C3002	006265-006	C7065E-Oxygen			1 lb (0.46 kg)
U9500C3004	006265-012	C7065E-Oxygen	X		1 lb (0.46 kg)

Junction Boxes for U9500 Infiniti®

Part Number	# of Ports	Thread	Material	FM/CSA/ ATEX/CE	Russian	Ship Weight
006264-029	5	3/4 NPT	AL	X		3.15 lb (1.43 kg)
006264-043	5	3/4 NPT	SS	X		9.5 lb (4.3 kg)
006264-044	5	M25	AL	X		3.15 lb (1.43 kg)
006264-045	5	M25	SS	X		9.5 lb (4.3 kg)
006264-944	5	M25	AL		X	3.15 lb (1.43 kg)
006264-945	5	M25	SS		X	9.5 lb (4.3 kg)
006264-034	5	3/4 NPT - PB*	AL	X		3.15 lb (1.43 kg)
006264-036	5	3/4 NPT - PB*	SS	X		9.5 lb (4.3 kg)

*Explosion-proof pushbutton occupies one of the available conduit entries.

Stop Plugs and Reducers

Part Number	Description	Ship Weight
101197-001*	Stop Plug, 3/4" NPT, AL	<1 lb (<0.45 kg)
101197-004*	Stop Plug, 3/4" NPT, SS	<1 lb (<0.45 kg)
103517-001	Stop Plug, M25, AL, IP66	<1 lb (<0.45 kg)
101197-003	Stop Plug, M25, SS, IP66	<1 lb (<0.45 kg)
102804-001	Reducer, M25 to M20, AL	<1 lb (<0.45 kg)
102804-003	Reducer, M25 to M20, SS	<1 lb (<0.45 kg)

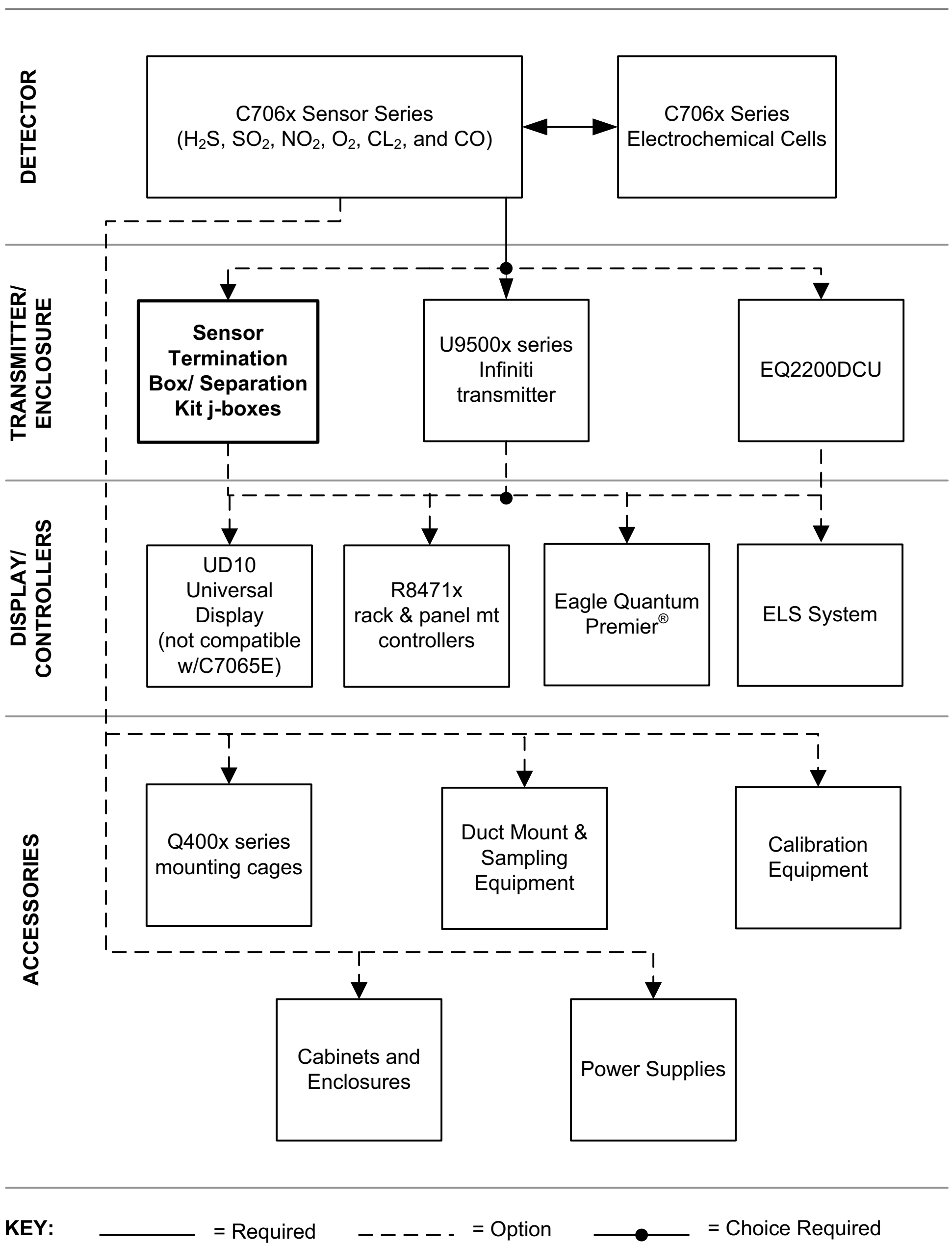
* NEMA 4/IP66 rating requires addition of non-hardening thread sealant or Teflon tape.

Model STB Series Sensor Termination Box and Separation Kit



Model STB Series Sensor Termination Box and Separation Kit includes a junction box, proper connector board required hardware to enable proper mounting and wiring of C706x series detectors.

- Enables remote installation of sensor for optimum gas detection while offering easy calibration access to U9500 Infiniti
- One Sensor Termination Box per sensor is required



STB Model Matrix

Model	Description
STB	Sensor Termination Box

Type	Compatibility
1	Model 505 Catalytic Transmitter
2	Model U9500A Catalytic Transmitter
3	Model C706x electrochmical gas sensor/transmitter
4	10 terminal
5	12 terminal

Type	Material
A	Aluminum
S	Stainless Steel

Type	# of Ports, thread type
2M	2 PORT, M20/M25 at 90 degree orientation
2N	2 PORT, 3/4" NPT at 90 degree orientation
2S	2 PORT, M20 at 180 degrees vertical
2U	2 PORT, 3/4" NPT at 180 degree vertical
2X	2 PORT, M20 at 90 degree orientation
2Y	2 PORT, M25 at 90 degree orientation
3M	3 PORT, M20/M25
3N	3 PORT, 3/4" NPT
3Y	3 PORT, M25
5Y	5 PORT, M25
5N	5 PORT, 3/4" NPT
6Y	6 PORT, M25
6N	6 PORT, 3/4" NPT

TYPE	APPROVAL AGENCY
W	FM/CSA/ATEX/CE
R	Russia

Model STB Series Sensor Termination Boxes and Separation Kits

Model	Part Number	Use With	Threads**	Material	Ports*	FM/CSA/ ATEX/CE	Russia	Ship Weight
STB3A2NW	226365-133	C706x toxics	3/4 NPT	AL	2 (L)	X		2.2 lb (1.0 kg)
STB3S5YW	226365-143	C706x toxics	3/4 NPT	SS	5	X		3.0 lb (1.4 kg)
STB3A2MW	226365-138	C706x toxics	M20/M25	AL	2 (L)	X		2.2 lb (1.0 kg)
STB3A2MR	226365-911	C706x toxics	M20/M25	AL	2 (L)		X	2.2 lb (1.0 kg)

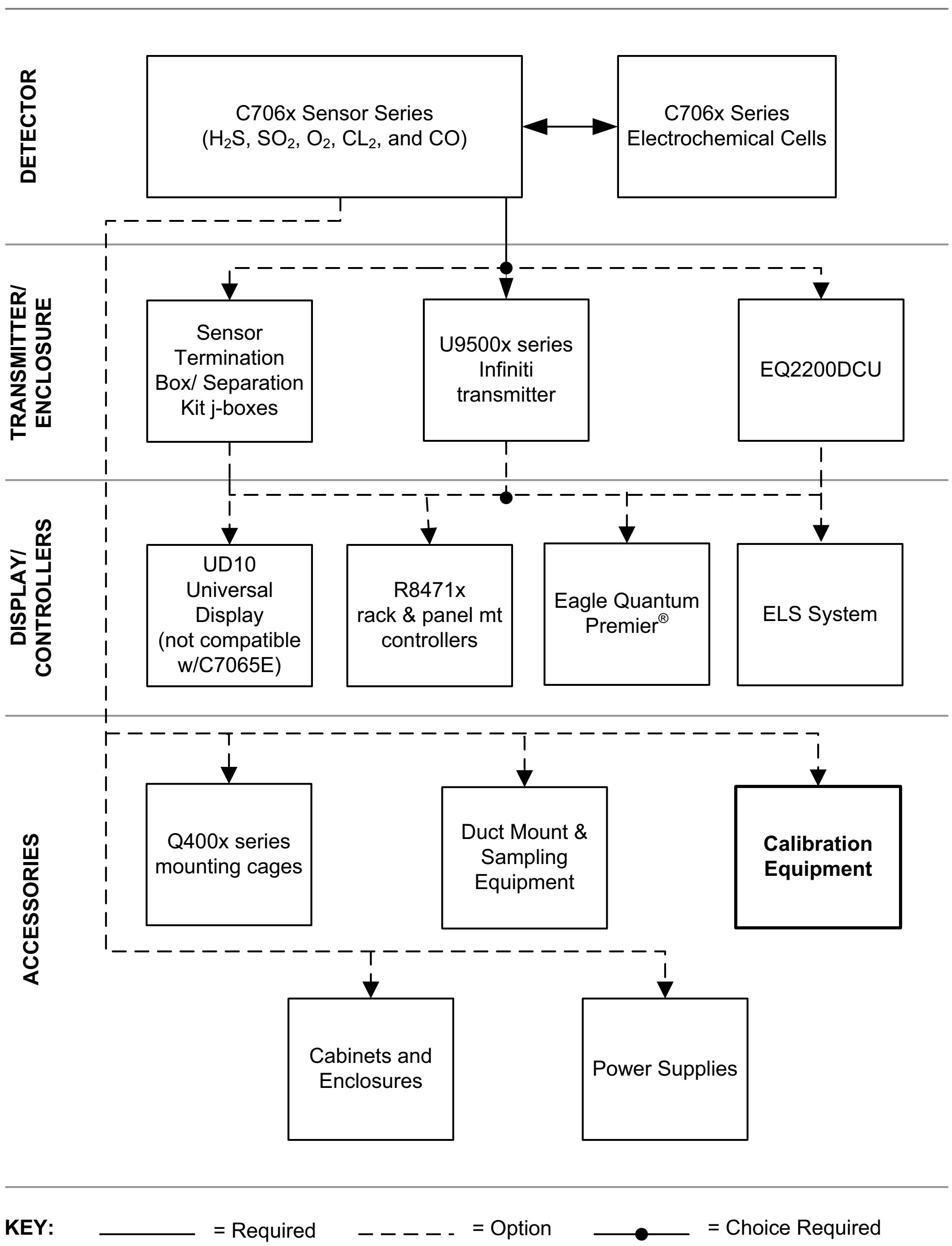
* (L) designates 90 degree conduit entry orientation.
** If two numbers are listed, the first number is for detector entry and the second number is for field cabling.

C706X Calibration Gas Kits



Toxic Calibration Gas Kit consists of a sturdy carrying case containing:

- Two 3.6 ft^3 (103 liters) cylinders of specified gas
- A regulator and pressure indicator
- Three-foot tubing
- Calibration Cup



Toxic Calibration Gas Kits

Part Number	Concentration	Gas	Use With	Ship Weight
227115-003	50 ppm	Carbon Monoxide	C7066E	11.5 lb (5.23 kg)
227115-004	250 ppm	Carbon Monoxide	C7066E	11.5 lb (5.23 kg)
227115-005	500 ppm	Carbon Monoxide	C7066E	11.5 lb (5.23 kg)
227115-013	5 ppm	Chlorine	C7067E	11.5 lb (5.23 kg)
227115-001	50 ppm	Hydrogen Sulfide	C7064 E/C	11.5 lb (5.23 kg)
227115-002	20 ppm	Hydrogen Sulfide	C7064 E/C	11.5 lb (5.23 kg)
227115-014	10 ppm	Hydrogen Sulfide	C7064 E/C	11.5 lb (5.23 kg)
227115-015	25 ppm	Hydrogen Sulfide	C7064 E/C	11.5 lb (5.23 kg)
227115-901	50 ppm	Hydrogen Sulfide	C7064 E/C	11.5 lb (5.23 kg)
227115-915	25 ppm	Hydrogen Sulfide	C7064 E/C	11.5 lb (5.23 kg)
227115-011	10 ppm	Nitrogen Dioxide	C7069E	11.5 lb (5.23 kg)
227115-006	20.9%	Oxygen	C7065E	11.5 lb (5.23 kg)
227115-012	50 ppm	Sulfur Dioxide	C7068E	11.5 lb (5.23 kg)

Toxic Calibration Gas Kit Replacement Parts

Part Number	Description	Ship Weight
005964-001	Calibration cup (C706X Series)	8 oz (0.23 kg)
101678-007	3 Foot tubing	8 oz (0.23 kg)
113006-001	Calibration cup O-ring (C706X Series)	8 oz (0.23 kg)
162552-001	Regulator, 1 LPM	8 oz (0.23 kg)
162553-001	Carrying Case	8 oz (0.23 kg)

Toxic Calibration Gas Kit Replacement Cylinders

Part Number	Concentration	Gas	Use With	Ship Weight
227117-013	50 ppm	Ammonia		1.5 lb (0.7 kg)
227117-004	250 ppm	Carbon Monoxide	C7066E	1.5 lb (0.7 kg)
227117-003	50 ppm	Carbon Monoxide	C7066E	1.5 lb (0.7 kg)
227117-005	500 ppm	Carbon Monoxide	C7066E	1.5 lb (0.7 kg)
227117-007	100 ppm	Chlorine	C7067E	1.5 lb (0.7 kg)
227117-006	5 ppm	Chlorine	C7067E	1.5 lb (0.7 kg)
227117-011	10 ppm	Hydrogen Sulfide	C7064 E/C	1.5 lb (0.7 kg)
227117-002	20 ppm	Hydrogen Sulfide	C7064 E/C	1.5 lb (0.7 kg)
227117-901	50 ppm	Hydrogen Sulfide	C7064 E/C	1.5 lb (0.7 kg)
227117-912	25 ppm	Hydrogen Sulfide	C7064 E/C	1.5 lb (0.7 kg)
227117-012	25 ppm	Hydrogen Sulfide	C7064 E/C	1.5 lb (0.7 kg)
227117-001	50 ppm	Hydrogen Sulfide	C7064 E/C	1.5 lb (0.7 kg)
227117-010	10 ppm	Nitrogen Dioxide	C7069E	1.5 lb (0.7 kg)
226166-006	20.9%	Oxygen	C7065E	1.5 lb (0.7 kg)
227117-008	50 ppm	Sulfur Dioxide	C7068E	1.5 lb (0.7 kg)

TOXICS

Duct Mount and Sample Draw Adapters for Toxic Gas Detectors



C706X Series Duct Mount Adapter

- Enables monitoring of toxic gases within air handling systems while maintaining easy sensor access
- Recommended for use on positive pressure ductwork with homogenous air mix conditions (non-stratified)
- Use of flexible cabling recommended to enable sensor removal



Model Q812 Duct Mount Enclosure Series (Manual: 95-8459) Provides detection in environments involving air handling, heating, ventilating, or air conditioning ducts.

- Mounts to a flat duct wall surface
- A stainless steel tube spans the cross section of the duct; a one-ft tube returns the sample
- Allows large volume, continuous air sampling
- Requires 600-4000 fpm velocity for adequate differential pressure
- Stainless steel NEMA 4X enclosure
- Compatible with all C706X sensors



C706X Series Sample Draw System Adapters
Adapter enables C706x sensors to function within gas sample extraction systems

- Stainless steel sampling system adapter
- Air-tight interface via seal O-ring eliminates gas sample leakage
- Includes inlet and outlet compression fittings for 0.25 inch outside diameter tubing

C706X Housing Duct Mount Adapters

Part Number	Use With	Ship Weight
226846-006	C7066, C7067, C7068, C7069	6 oz (0.17 kg)
226846-002	C7064C, C7064E	6 oz (0.17 kg)

NOTE: Not recommended for stratified or laminar air flow patterns.

Model Q812 Duct Mount Enclosure Series

Part Number*	Gas type and sensor	Material	Tube Length	Gas Measurement Range	Ship Weight
000812-001	C7064E-H_2S	SS	**	0-100 ppm	10.5 lb (4.8 kg)
000812-005	C7064E-H_2S	SS	**	0-50 ppm	10.5 lb (4.8 kg)
000812-003	C7066E-CO	SS	**	0-100 ppm	10.5 lb (4.8 kg)
000812-004	C7068E-SO_2	SS	**	0-100 ppm	10.5 lb (4.8 kg)

* Price includes preinstalled electrochem gas detector as noted.
** One inlet tube (000214-XXX) and one return tube (000214-130) at no extra cost, customer must specify desired inlet tube length at order entry.

Model Q812 Sample Tubes

Part Number	Material	Ship Weight	Length
000214-126	SS	8 oz (0.23 kg)	1 ft
000214-127	SS	1 lb (0.45 kg)	3 ft
000214-128	SS	3 lb (1.35 kg)	6 ft
000214-129	SS	6 lb (2.4 kg)	10 ft
000214-180	SS	9 lb (4.0 kg)	13 ft
000214-130*	SS	8 oz (0.23 kg)	1 ft

* Return tube

Sample Draw Cup Assembly for C706X Toxics

Part Number	Material	Ship Weight
006517-001	SS	2.5 lb (1.28 kg)
006517-002	AL	1 lb (0.46 kg)

NOTE: Peripheral sampling system equipment required for proper operation.

NOTES

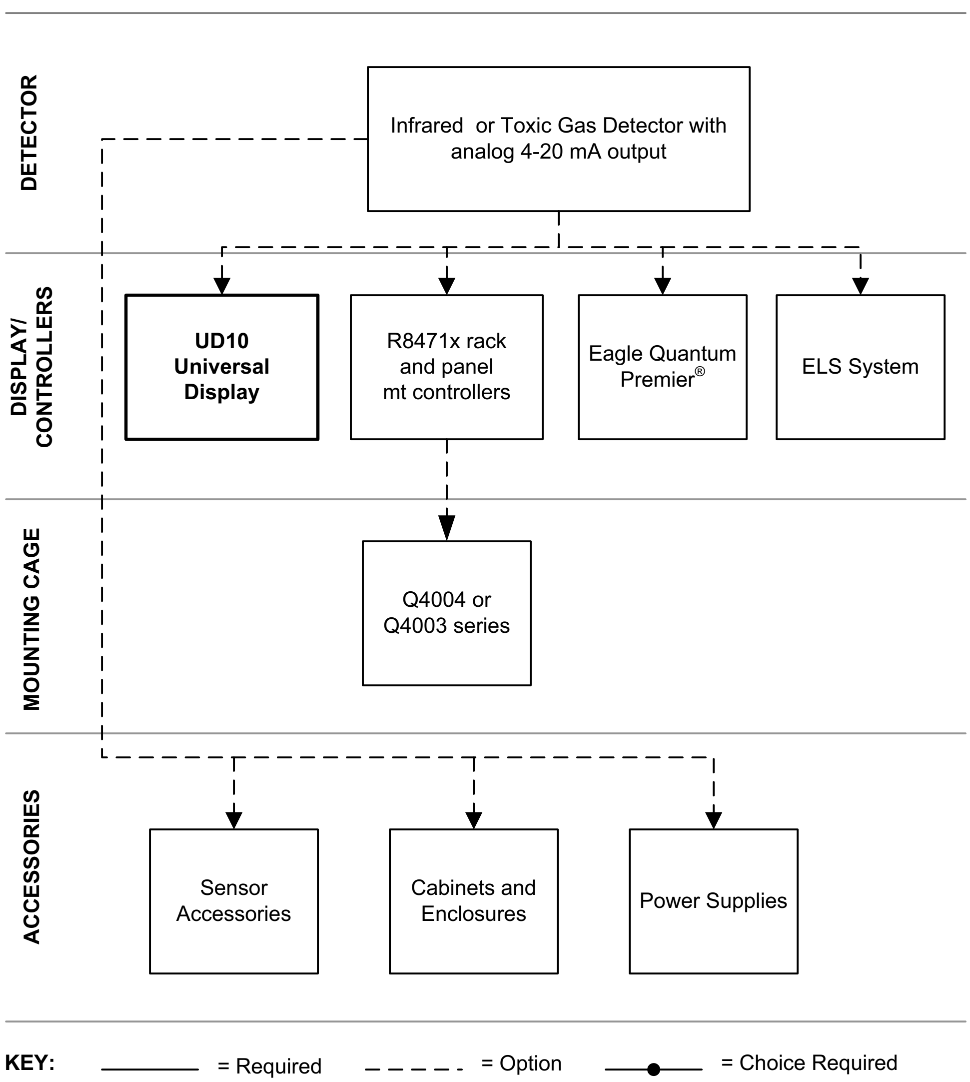
DISPLAYS AND CONTROLLERS

FlexVu™ UD10 Universal Display



FlexVu™ UD10 Universal Display (Spec Sheet 90-1200) is recommended for applications where a gas detector with digital read-out of detected gas levels and analog, content, and/or Modbus RS485 signal outputs are required. The FlexVu™ UD10 Universal Display Unit is designed for use with Det-Tronics gas sensor/transmitters such as PIR9400, PIRECL, OPECL, C706x, Model 505/CGS, or NTMOS. The display unit is designed and approved as a 'stand alone' device and performs all the functions of a gas controller.

- Universal design supports multiple Det-Tronics sensors
- Continuously displays gas level, gas type, and units measured
- Backlit display
- Non-intrusive menu allows device configuration and calibration without de-classifying the hazardous area
- Linear isolated/non-isolated 4 to 20 mA output with HART



FlexVu™ UD10 Model Matrix

MODEL	DESCRIPTION					
UD10	Universal Display Unit					
	TYPE	MATERIAL				
	A	Aluminum				
	S	Stainless Steel (316)				
		TYPE	THREAD TYPE			
		5M	5 Port, Metric M25			
		5N	5 Port, 3/4" NPT			
			TYPE	OUTPUTS		
			14	LON/EQP		
			25	Relay, 4-20mA, RS485, HART		
				TYPE	APPROVAL	
				C	CSA	
				W	FM/CSA/ATEX/CE	
					TYPE	CLASSIFICATION (Div/Zone)
					2	Ex d (Flameproof)

FlexVu™ UD10 Universal Display

Model	Part Number	Material	Threads	Relay 4-20 RS485 HART	Ex d	FM/CSA/ ATEX/CE	CSA	Ship Weight
UD10A5M25W2	009621-001	AL	M25	X	X	X		2.2 lb (1.0 kg)
UD10A5N25W2	009621-002	AL	3/4 NPT	X	X	X		2.2 lb (1.0 kg)
UD10S5M25W2	009621-003	316 SS	M25	X	X	X		3.0 lb (1.4 kg)
UD10S5N25W2	009621-004	316 SS	3/4 NPT	X	X	X		3.0 lb (1.4 kg)
UD10A5N25C2	009621-102	AL	3/4 NPT	X	X		X	2.2 lb (1.0 kg)
UD10S5N25C2	009621-104	316 SS	3/4 NPT	X	X		X	3.0 lb (1.4 kg)

FlexVu™ UD10 Spare Module

Part Number	Description	Relay / 4-20 RS485 / HART	Ship Weight
009489-001	UD10 Display Module	X	1 lb (0.45 kg)

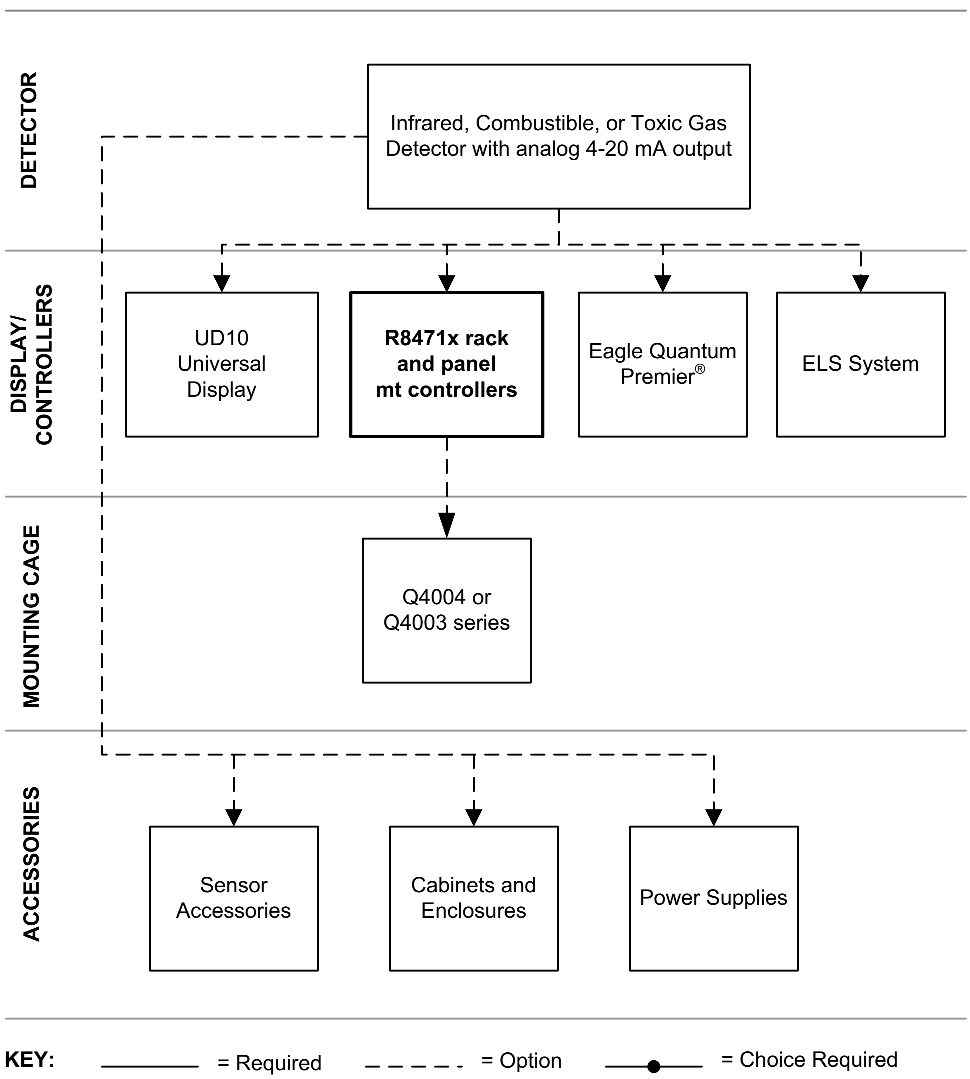
DISPLAYS AND CONTROLLERS

R8471 Series Single Channel Rack-Mounted Gas Controllers



Features include:

- Analog 4-20 mA signal input receiver
- Digital and bar graph displays indicate detected gas level
- Individual low, high, auxiliary, and fault alarm outputs are field programmable
- Standard model offers open collector outputs only
- Premium model offers 4-20 mA output and 4 relay output package
- All support remote calibration capability
- Compatible with Det-Tronics gas detector's transmitters
- Two controller height options: 4U (7") standard height, 3U (5.2") short height
- Two mounting cage options: 4U (7") standard height, 3U (5.2") short height
- Offered factory-installed in Q2050 enclosure
- Panel Mount versions available



R8471 Single Channel Rack-Mounted Gas Controllers for use with Q4004 mounting cages (4U height)

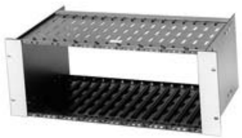
Model	Part Number	Gas Detector Compatibility	Base Model: O.C. Outputs only	Premium Model: 4-20 mA Output and Relays	Measurement Range	Ht Config	FM	CSA	ATEX/CE	Ship Weight
R8471A1002	005479-001	Catalytic	X		0-100% LFL	4U	X	X	X	4 lb (1.8 kg)
R8471A1004	005479-002	Catalytic		X	0-100% LFL	4U	X	X	X	4 lb (1.8 kg)
R8471B2002	005479-003	Hydrogen Sulfide	X		0-100 ppm	4U	X	X		4 lb (1.8 kg)
R8471B2004	005479-004	Hydrogen Sulfide		X	0-100 ppm	4U	X	X		4 lb (1.8 kg)
R8471B2006	005479-031	Hydrogen Sulfide	X		0-50 ppm	4U	X	X		4 lb (1.8 kg)
R8471B2008	005479-032	Hydrogen Sulfide		X	0-50 ppm	4U	X	X		4 lb (1.8 kg)
R8471B2010	005479-029	Hydrogen Sulfide	X		0-20 ppm	4U	X	X		4 lb (1.8 kg)
R8471B2012	005479-030	Hydrogen Sulfide		X	0-20 ppm	4U	X	X		4 lb (1.8 kg)
R8471C3006	005479-025	Oxygen	X		0-25% by vol	4U		X		4 lb (1.8 kg)
R8471C3008	005479-026	Oxygen		X	0-25% by vol	4U		X		4 lb (1.8 kg)
R8471D6002	005479-009	Chlorine	X		0-10 ppm	4U		X		4 lb (1.8 kg)
R8471D6004	005479-010	Chlorine		X	0-10 ppm	4U		X		4 lb (1.8 kg)
R8471E5002	005479-007	Carbon Monoxide	X		0-100 ppm	4U		X		4 lb (1.8 kg)
R8471E5004	005479-008	Carbon Monoxide		X	0-100 ppm	4U		X		4 lb (1.8 kg)
R8471E5102	005479-013	Carbon Monoxide	X		0-1000 ppm	4U		X		4 lb (1.8 kg)
R8471E5104	005479-014	Carbon Monoxide		X	0-1000 ppm	4U		X		4 lb (1.8 kg)
R8471E5506	005479-011	Carbon Monoxide	X		0-500 ppm	4U		X		4 lb (1.8 kg)
R8471E5508	005479-012	Carbon Monoxide		X	0-500 ppm	4U		X		4 lb (1.8 kg)
R8471F6002	005479-015	Sulfur Dioxide	X		0-100 ppm	4U		X		4 lb (1.8 kg)
R8471F6004	005479-016	Sulfur Dioxide		X	0-100 ppm	4U		X		4 lb (1.8 kg)
R8471H1002	005479-017	Point Infrared	X		0-100% LFL	4U	X	X	X	4 lb (1.8 kg)
R8471H1004	005479-018	Point Infrared		X	0-100% LFL	4U	X	X	X	4 lb (1.8 kg)

R8471 Single Channel Rack-Mounted Gas Controllers for use with Q4003 mounting cages (3U height)

Model	Part Number	Gas Detector Compatibility	Base Model: O.C. Outputs only	Premium Model: 4-20 mA Output and Relays	Measurement Range	Ht Config	FM	CSA	ATEX/CE	Ship Weight
R8471A1001	005478-001	Catalytic	X		0-100% LFL	3U	X	X	X	3 lb (1.4 kg)
R8471A1003	005478-002	Catalytic		X	0-100% LFL	3U	X	X	X	3 lb (1.4 kg)
R8471B2001	005478-003	Hydrogen Sulfide	X		0-100 ppm	3U	X	X		3 lb (1.4 kg)
R8471B2003	005478-004	Hydrogen Sulfide		X	0-100 ppm	3U	X	X		3 lb (1.4 kg)
R8471C3005	005478-025	Oxygen	X		0-25% by vol	3U		X		3 lb (1.4 kg)
R8471C3007	005478-026	Oxygen		X	0-25% by vol	3U		X		3 lb (1.4 kg)
R8471D4001	005478-009	Chlorine	X		0-10 ppm	3U		X		3 lb (1.4 kg)
R8471D4003	005478-010	Chlorine		X	0-10 ppm	3U		X		3 lb (1.4 kg)
R8471E5001	005478-007	Carbon Monoxide	X		0-100 ppm	3U		X		3 lb (1.4 kg)
R8471E5003	005478-008	Carbon Monoxide		X	0-100 ppm	3U		X		3 lb (1.4 kg)
R8471E5101	005478-013	Carbon Monoxide	X		0-1000 ppm	3U		X		3 lb (1.4 kg)
R8471E5103	005478-014	Carbon Monoxide		X	0-1000 ppm	3U		X		3 lb (1.4 kg)
R8471E5505	005478-011	Carbon Monoxide	X		0-500 ppm	3U		X		3 lb (1.4 kg)
R8471E5507	005478-012	Carbon Monoxide		X	0-500 ppm	3U		X		3 lb (1.4 kg)
R8471F6001	005478-015	Sulfur Dioxide	X		0-100 ppm	3U		X		3 lb (1.4 kg)
R8471F6003	005478-016	Sulfur Dioxide		X	0-100 ppm	3U		X		3 lb (1.4 kg)
R8471H1001	005478-017	Point Infrared	X		0-100% LFL	3U	X	X	X	3 lb (1.4 kg)
R8471H1003	005478-018	Point Infrared		X	0-100% LFL	3U	X	X	X	3 lb (1.4 kg)

DISPLAYS AND CONTROLLERS

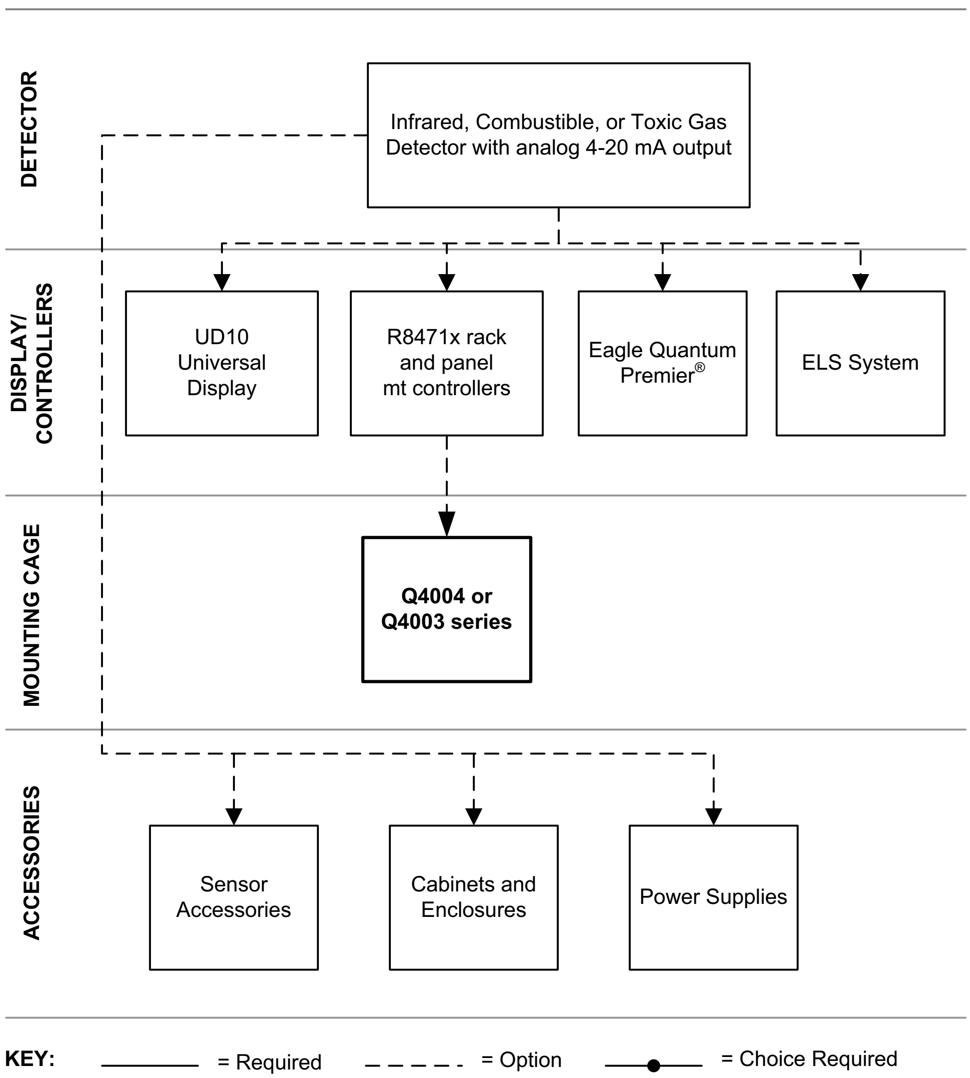
Mounting Cages: Q4003 and Q4004



Q4004 Universal Mounting Cage for use with 4U-height (7") R8471 gas controllers. Also supports R74xx and R60xx flame detection cards. Same size as previous Q4001 rack used with R73xx controllers.



Q4003 Universal Mounting Cage for use with 3U-height (5.2") R8471 gas controllers.



R8471 Mounting Cages

Model	Part Number	Capacity (max # of R8471 controllers)	Height Config	Height	Ship Weight
Q4004A2019	005269-001	16	4U	7.0 in	9.3 lb (4.2 kg)
Q4004E2027	005269-002	12	4U	7.0 in	7.6 lb (3.5 kg)
Q4004B2011	005269-003	8	4U	7.0 in	5.9 lb (2.7 kg)
Q4004C2009	005269-004	6	4U	7.0 in	5.1 lb (2.3 kg)
Q4004D2007	005269-005	4	4U	7.0 in	4.2 lb (1.9 kg)
Q4004A2050	005269-006	2	4U	7.0 in	3.1 lb (1.4 kg)
4U Blank Plate	005496-001	covers 1 slot width	4U	7.0 in	0.2 lb (0.1 kg)
Q4003U1019	005269-007	16	3U	5.25 in	9.3 lb (4.2 kg)
Q4003U1027	005269-008	12	3U	5.25 in	7.6 lb (3.5 kg)
Q4003U1011	005269-009	8	3U	5.25 in	5.9 lb (2.7 kg)
Q4003U1009	005269-010	6	3U	5.25 in	5.1 lb (2.3 kg)
Q4003U1007	005269-011	4	3U	5.25 in	4.2 lb (1.9 kg)
Q4003U1050	005269-012	2	3U	5.25 in	3.1 lb (1.4 kg)
3U Blank Plate	005496-002	covers 1 slot width	3U	5.25 in	0.2 lb (0.1 kg)

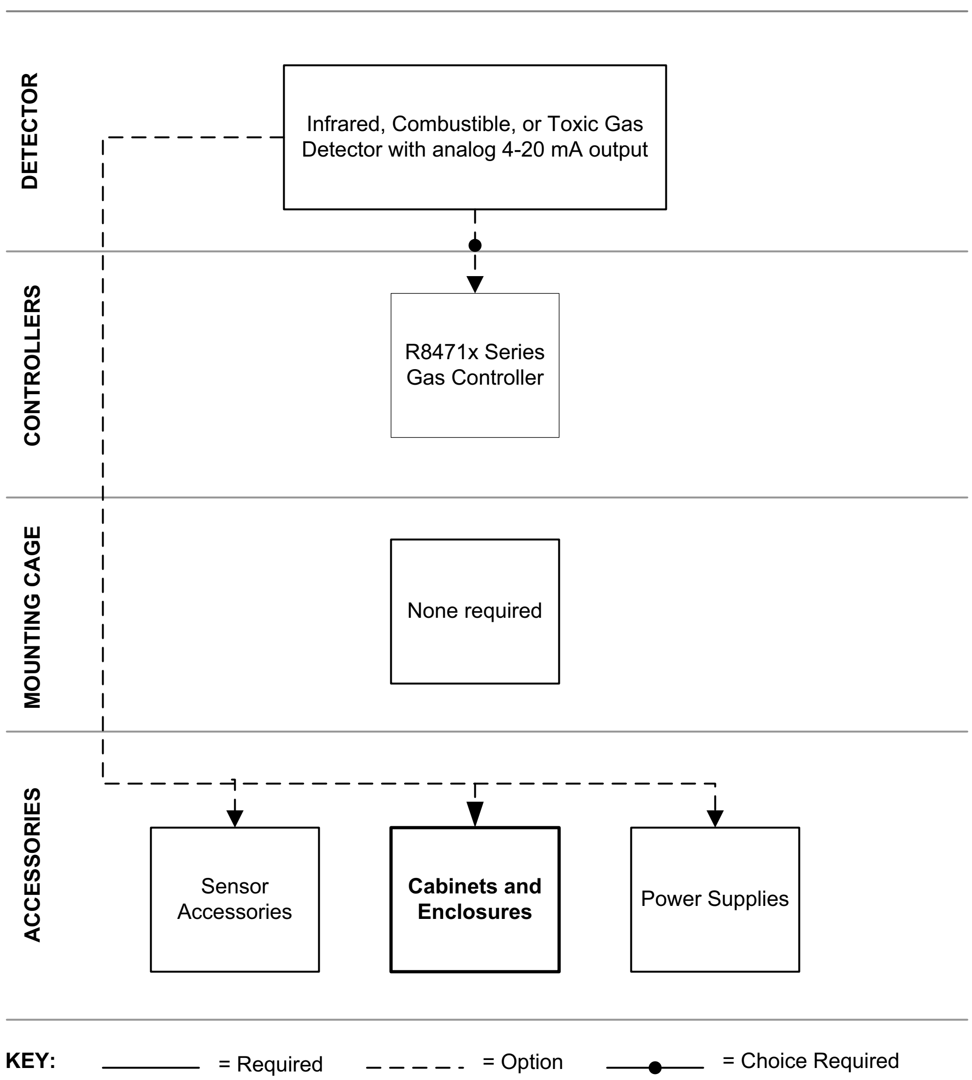
DISPLAYS AND CONTROLLERS

Q2050 Series Wall Mount Enclosures



The Q205x series (Spec Sheet 90-1075) are factory-built and tested NEMA 4X fiberglass enclosures with preinstalled R8471 gas controllers.

- Holds up to six channels of panel-mounted R8471 gas controllers
- Controllers are packed in two-controller assemblies
- Full view polycarbonate window with latching door
- Any combination of combustible or toxic controllers may be selected for installation
- Easy access terminal strip for controller wiring
- Field wiring terminal strip for units with power supplies is standard
- Virtual plug and play installation
- Optional factory-fit strobe warning lights, audible horns, and reset pushbuttons quoted upon request

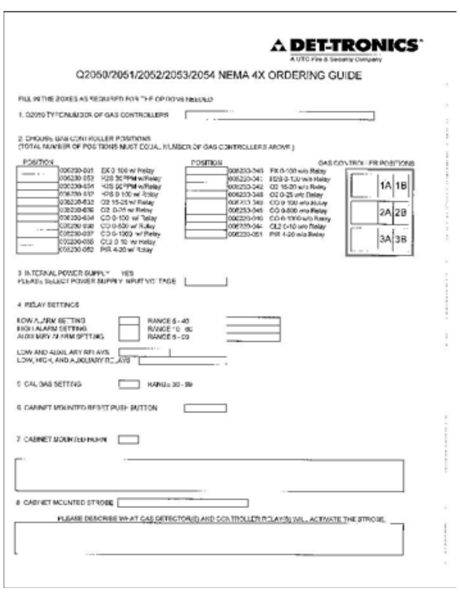


Q2050 Series Wall Mount Enclosures

Model Series	Relay Outputs	Power Supply	# of Ctrlrs	Height	Depth	Width	Ship Weight
Q2050			1	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	12.5 lb (5.7 kg)
	X		1	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	12.5 lb (5.7 kg)
			2	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	13.0 lb (5.9 kg)
	X		2	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	13.0 lb (5.9 kg)
			3	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	14.5 lb (6.6 kg)
	X		3	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	14.5 lb (6.6 kg)
			4	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	15.0 lb (6.8 kg)
	X		4	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	15.0 lb (6.8 kg)
Q2051		X	1	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	19.0 lb (8.6 kg)
	X	X	1	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	19.0 lb (8.6 kg)
		X	2	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	19.5 lb (8.8 kg)
	X	X	2	15.5 in (381 mm)	8.25 in (210 mm)	12.75 in (324 mm)	19.5 lb (8.8 kg)
Q2052		X	1	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	25.0 lb (11.3 kg)
	X	X	1	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	25.0 lb (11.3 kg)
		X	2	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	25.5 lb (11.6 kg)
	X	X	2	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	25.5 lb (11.6 kg)
		X	3	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	26.0 lb (11.8 kg)
	X	X	3	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	26.0 lb (11.8 kg)
		X	4	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	26.5 lb (12.0 kg)
	X	X	4	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	26.5 lb (12.0 kg)
Q2053			5	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	19.5 lb (8.8 kg)
	X		5	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	19.5 lb (8.8 kg)
			6	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	20.0 lb (9.1 kg)
	X		6	19.5 in (495 mm)	9.63 in (245 mm)	17.3 in (439 mm)	20.0 lb (9.1 kg)
Q2054		X	5	24 in (609 mm)	7.75 in (197 mm)	24 in (609 mm)	26.0 lb (11.8 kg)
	X	X	5	24 in (609 mm)	7.75 in (197 mm)	24 in (609 mm)	26.0 lb (11.8 kg)
		X	6	24 in (609 mm)	7.75 in (197 mm)	24 in (609 mm)	26.5 lb (12.0 kg)
	X	X	6	24 in (609 mm)	7.75 in (197 mm)	24 in (609 mm)	26.5 lb (12.0 kg)

NOTES:

1. All Q205x Enclosures utilize panel-mounted R8471 controllers premounted to aluminum subplate.
2. **Orders for Q205x enclosures will not be accepted without a completed Q205x configuration sheet (shown below). Contact the Technical Group in Customer Service for assistance.**


DET-TRONICS

Q2050/2051/2052/2053/2054 NEMA 4X ORDERING GUIDE

DISPLAYS AND CONTROLLERS

Q1020A Wall Mount Enclosure

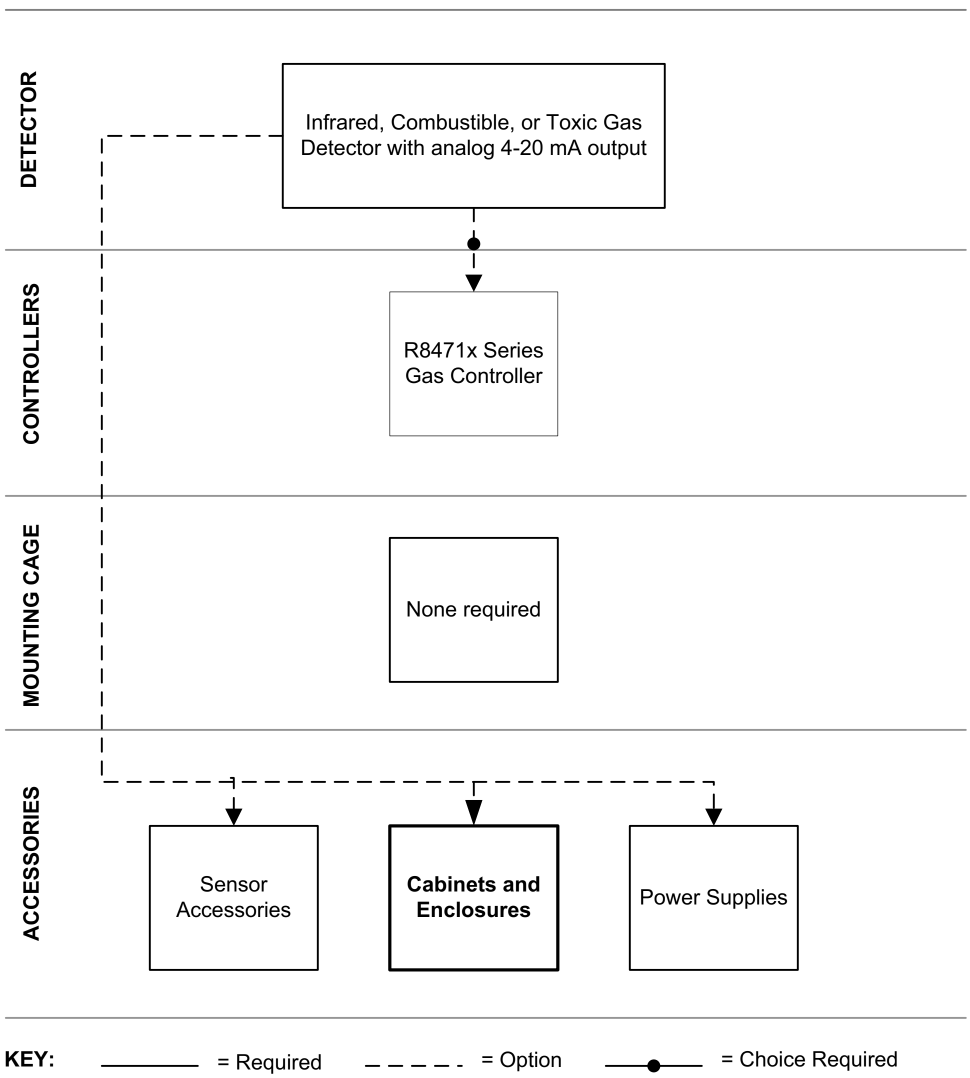


The **Q1020** (Manual 95-8350) is a three-compartment, painted metal enclosure with preinstalled 19 inch Q4004 mounting cage and termination strip factory-wired and tested for easy installation. Additional equipment such as power supply or extra items (external relays, sounders, lights, etc.) may limit maximum controller capacity. Consult factory with specific requirements.

- Each Q1020 will hold a maximum of 16 or 32 R8471 series controllers
- Prewired internal power distribution including fuse protection
- Provides protection against dust and water spray; rated IP55 for indoor applications
- Locking door with full clear viewing window
- Each Q1020 provided with a standard electrical and standard mechanical design drawing

NOTES: Standard preinstallation service includes installation, wiring, and testing of controller backplates only. Any additional hardware cabling, additional drawings, and engineering provided at standard project engineering rates and will be quoted separately.

Q1020 list price does not include R8471 gas controllers.



Q1020A Wall Mount Enclosures

Model	Part Number	Dimensions	Use With	Ship Weight
Q1020A1001	000803-001	13" x 24" x 21"	up to (16) R8471 gas controllers	80 lb (36 kg)
Q1020A2001	000803-002	26" x 24" x 21"	up to (32) R8471 gas controllers	160 lb (72 kg)

DISPLAYS AND CONTROLLERS

Power Supplies

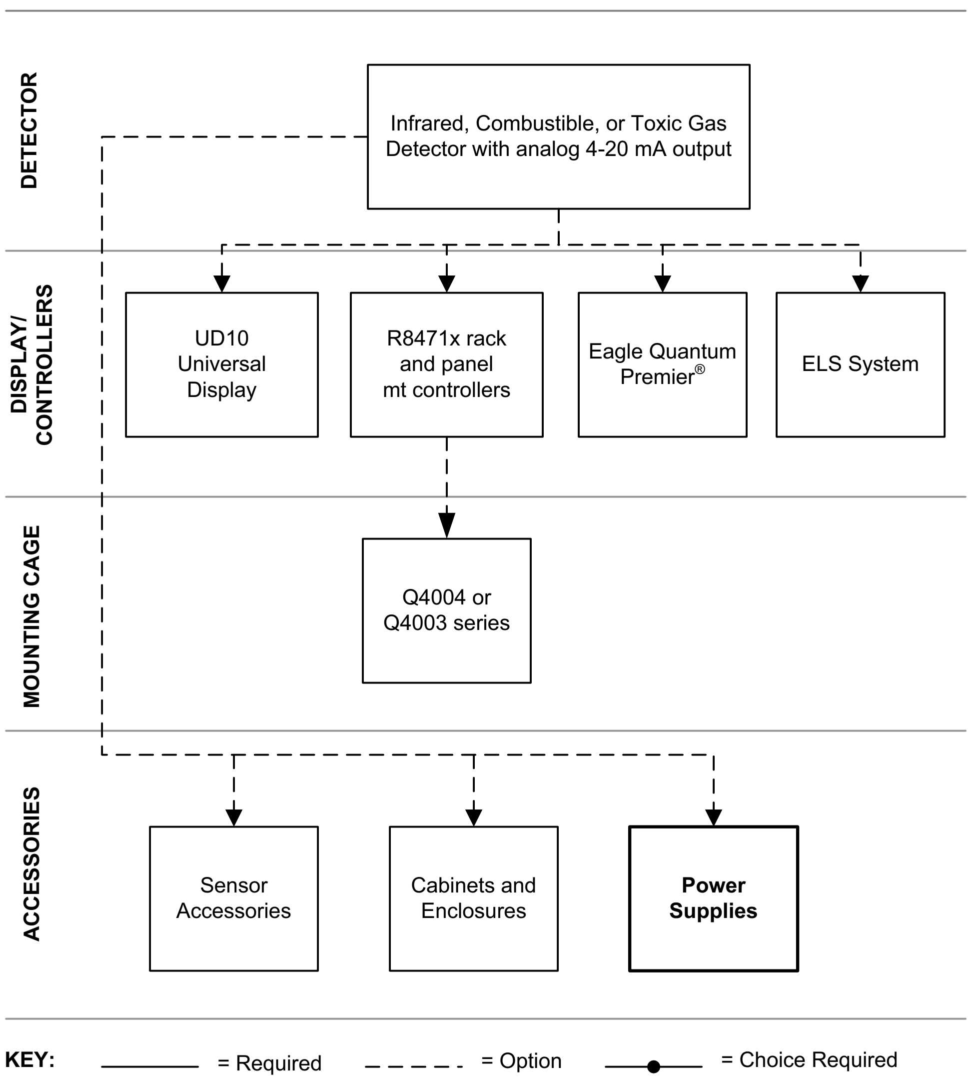


000507-005 and 000507-006 24 Vdc Power Supplies (Spec Sheet: 90-1035)
Ideally suited for Q1020 Wall Mount enclosures or other enclosures that contain Det-Tronics gas detection equipment.

- Open frame construction
- Operates on 120/240 Vac 50/60 Hz

000604-012 Wall Mount Enclosure with 000507-006 Power Supply (24 Vdc) mounted inside

- For indoor use only
- Fused terminal strip provided for field wiring
- 24 Vdc at 12 amps power supply included



24 Vdc Power Supplies

000507 Series Open Frame Power Supplies

Part Number	Max Amperes	Ship Weight
000507-005	3.6	6.5 lb (2.95 kg)
000507-006	12	15 lbs (6.8 kg)

000604-012 Wall Mount Enclosure with 000507-006 Power Supply in

Part Number	Housing	Ship Weight
000604-012	Aluminum, NEMA 1	6.5 lb (2.95 kg)

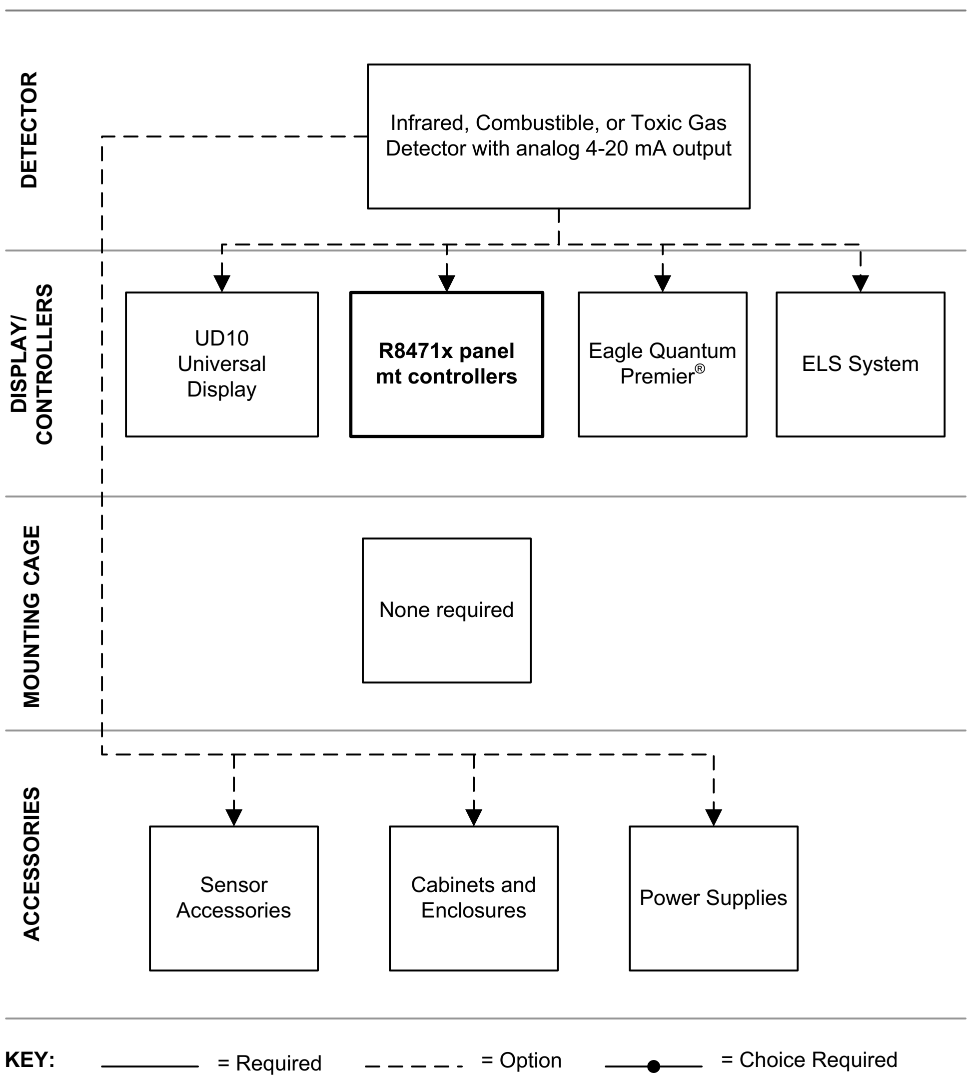
DISPLAYS AND CONTROLLERS

Panel Mount R8471 Controller Assembly



Panel Mount R8471 Controller Assembly
Each assembly consists of either one or two standard R8471 controllers modified for flat-panel mounting. Typical use includes installation within wall-mount enclosures such as the Q2050 series wall-mount fiberglass enclosure series.

- Controller faceplates and field wiring termination strips rotated outward for easy wiring and operator interface
- Standoffs used for mounting the assembly to a flat panel
- Operation and calibration identical to standard R8471 controller series
- No mounting cage required
- Four panel-mount controller configurations available:
  - 006631-xxx series for single-controller assembly field upgrades (one channel to two channels)
  - 006632-xxx series for new single-controller assembly requirements
  - 006633-xxx series for complete, two-controller assembly requirements
  - 007000-xxx series for spare controller board only requirements



Panel Mount R8471 Controller Assemblies

Part Number	Gas Type	Description	Ship Weight
006631-007	catalytic	Single controller assembly with cover and terminal*	2.15 lb (1.4 kg)
006631-008	H_2S (100 ppm full scale)	Single controller assembly with cover and terminal*	2.15 lb (1.4 kg)
006631-009	PIR9400	Single controller assembly with cover and terminal*	2.15 lb (1.4 kg)
006631-010	chlorine	Single controller assembly with cover and terminal*	2.15 lb (1.4 kg)
006631-011	oxygen	Single controller assembly with cover and terminal*	2.15 lb (1.4 kg)
006631-012	H_2S (20 ppm full scale)	Single controller assembly with cover and terminal*	2.15 lb (1.4 kg)
006631-013	H_2S (50 ppm full scale)	Single controller assembly with cover and terminal*	2.15 lb (1.4 kg)
006632-001	catalytic	Single controller w/cover and terminals; upper position only	2.15 lb (1.4 kg)
006632-002	H_2S (100 ppm full scale)	Single controller w/cover and terminals; upper position only	2.15 lb (1.4 kg)
006632-003	PIR9400	Single controller w/cover and terminals; upper position only	2.15 lb (1.4 kg)
006632-004	oxygen	Single controller w/cover and terminals; upper position only	2.15 lb (1.4 kg)
006632-005	H_2S (20 ppm full scale)	Single controller w/cover and terminals; upper position only	2.15 lb (1.4 kg)
006632-006	H_2S (50 ppm full scale)	Single controller w/cover and terminals; upper position only	2.15 lb (1.4 kg)
006633-001	catalytic	Complete (2) controller assembly with wiring terminal strips	5.8 lb (2.8 kg)
006633-002	H_2S (100 ppm full scale)	Complete (2) controller assembly with wiring terminal strips	5.8 lb (2.8 kg)
006633-003	PIR9400	Complete (2) controller assembly with wiring terminal strips	5.8 lb (2.8 kg)
006633-004	oxygen	Complete (2) controller assembly with wiring terminal strips	5.8 lb (2.8 kg)
006633-005	H_2S (20 ppm full scale)	Complete (2) controller assembly with wiring terminal strips	5.8 lb (2.8 kg)
006633-006	H_2S (50 ppm full scale)	Complete (2) controller assembly with wiring terminal strips	5.8 lb (2.8 kg)
007000-001	catalytic	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)
007000-002	H_2S (100 ppm full scale)	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)
007000-003	PIR9400	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)
007000-004	chlorine	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)
007000-005	oxygen	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)
007000-006	H_2S (20 ppm full scale)	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)
007000-007	H_2S (50 ppm full scale)	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)
007000-008	CO (100 ppm full scale)	Single controller board only; no cover or terminals	2.15 lb (1.4 kg)

All Panel Mount R8471 controllers are provided with relay outputs.
*Customer to specify desired controller position (either upper or lower level position).

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SYSTEMS

Availability and specifications are subject to change without notice.

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SYSTEMS CONTINIUED…

Availability and specifications are subject to change without notice.

OVERVIEW

Eagle Quantum Premier® System

The Eagle Quantum Premier System (EQP) (Spec Sheet 90-1150) combines “fire detection and extinguishing agent release” and “hazardous gas monitoring” in one complete package. The system is intended for use in hazardous locations and is designed to meet the requirements of approval agencies from around the world.

The system consists of a controller and a number of addressable microprocessor-based field devices. The controller coordinates system device configuration, monitoring, annunciation, and control, while the field devices communicate their status and alarm conditions to the controller.

The controller communicates with the field devices through a digital communications link referred to as the LON communications loop. As the name infers, the network topology is laid out as a loop that begins and ends at the controller. All of the field devices are connected into the communication loop. The communication loop is a specialized design to meet the requirements of a Signaling Line Circuit (SLC).

The LON communication loop offers several key advantages:

- ANSI/NFPA Class A, Style 7 performance of SLC
- Peer-to-peer communications
- Expandability

The controller continuously executes the user logic programs that are programmed into the controller. The user logic programs are set up in the same fashion as IEC 61131-3 programmable logic programmed into programmable logic controllers (PLCs). Block diagram logic gates are tied together with inputs, outputs, and other logic gates to perform a specific task. A number of tasks can be tied together to perform a system function.

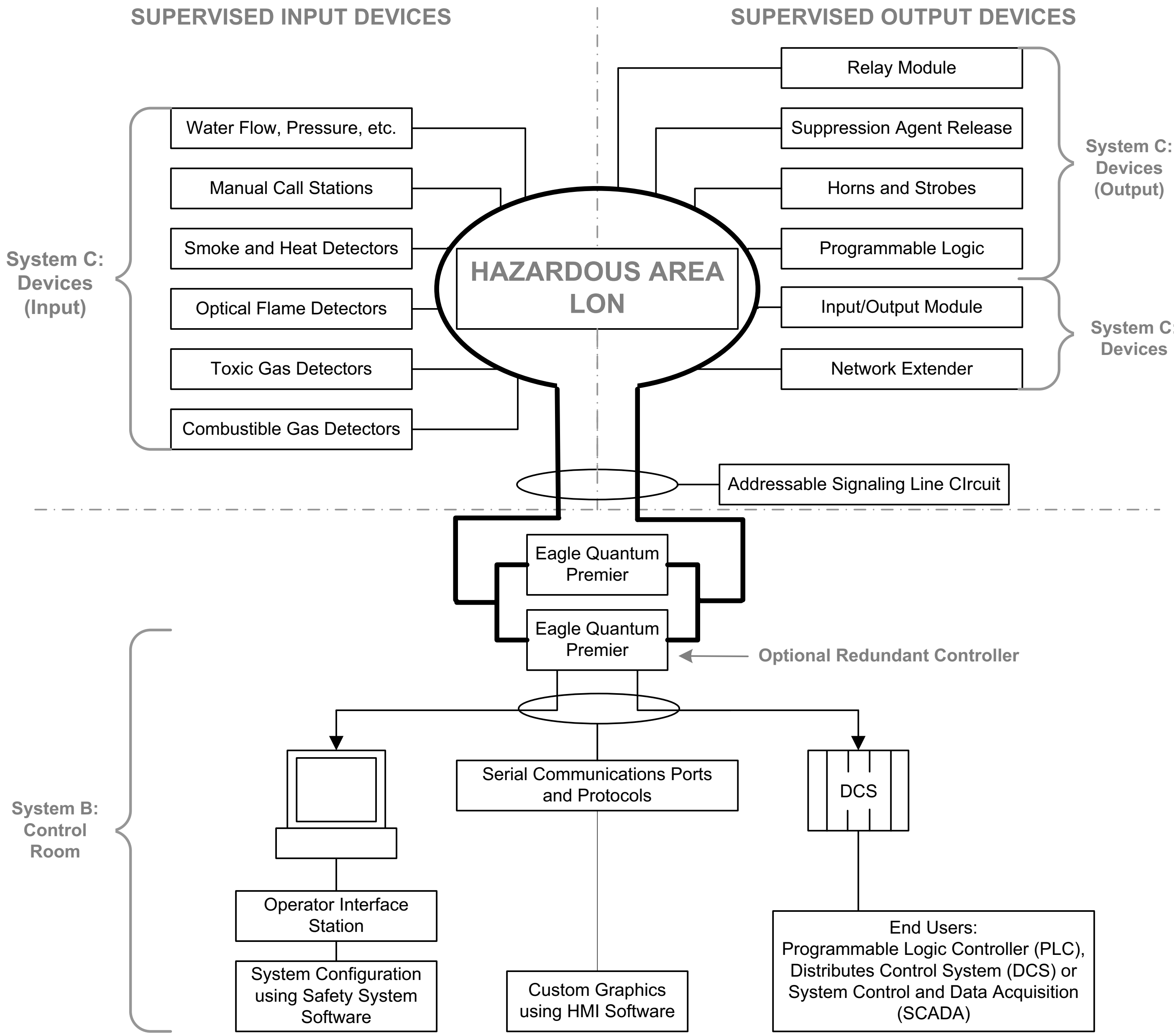
Typical programmed functions include flame/gas voting, timing delays, timing executions, latching conditions, alarm and trouble notification, suppression control, condition control, and process shutdown notification.

For complete system integration, the controller has the capability to communicate with other systems such as PLCs, distributed control systems (DCSs), and Supervisory Control and Data Acquisition (SCADA). Different communication protocols are supported, allowing the controller to communicate with other systems either directly or through communication gateways.

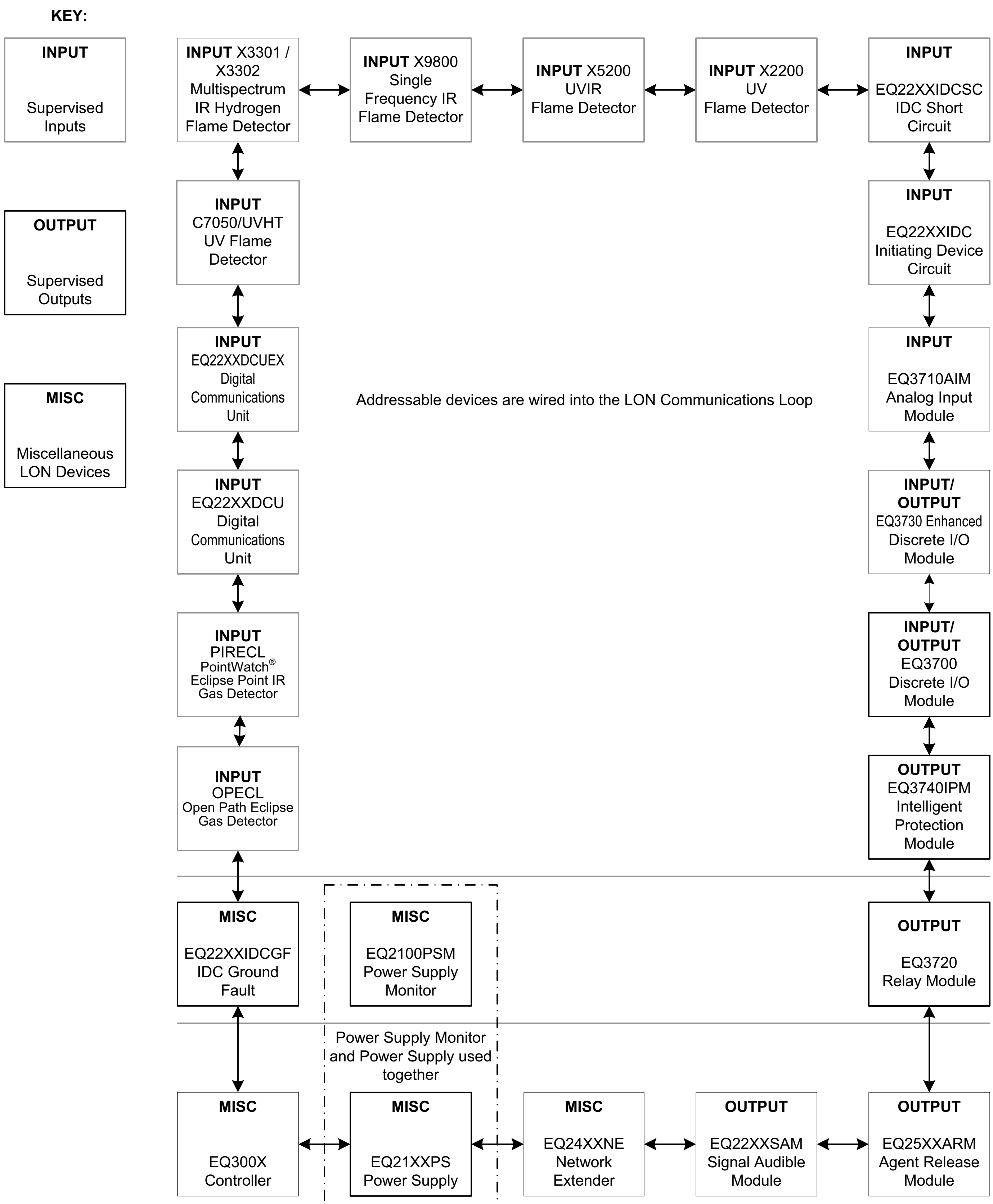
The System Safety Software package supports an OPC server option that can publish system information to OPC clients.

System features:

- Simplex and redundant operation
- Deluge and pre-action release capability for fire suppression
- Agent release capability for fire suppression
- Supports up to 246 addressable field devices
- Fault-tolerant LON communication loop
- Up to 32,800 feet (10,000 meters) of LON network communication wire
- Eagle Quantum Premier™ LON version of Det-Tronics flame and gas detectors
- Support for integrating third-party detectors (4 to 20 mA, “dry contact” type outputs or two wire smoke detectors) into EQP system
- Field devices have nonvolatile memory for alarm and calibration logging
- System and field device built-in system diagnostics
- IEC 61131-3 programmable logic
- Up to four Modbus RTU communication ports available
- ControlNet optional communication card (supports redundant communication channels)
- FM Approved to ANSI/NFPA-72-1999 National Fire Alarm Code
- FM, CSA, ATEX/CE
- Certified SIL-2 capable version available
- US Coast Guard type approval under 46 CFR 161.002.
- FM approved Proprietary Supervising Station System, defined in NFPA 72 2002


SUPERVISED INPUT DEVICES
SUPERVISED OUTPUT DEVICES
Water Flow, Pressure, etc.
Manual Call Stations
Smoke and Heat Detectors
Optical Flame Detectors
Toxic Gas Detectors
Combustible Gas Detectors
System C: Devices (Input)
Relay Module
Suppression Agent Release
Horns and Strobes
Programmable Logic
Input/Output Module
Network Extender
System C: Devices (Output)
System C: Devices
HAZARDOUS AREA LON
Addressable Signaling Line CIrcuit
Eagle Quantum Premier
Eagle Quantum Premier
Optional Redundant Controller
System B: Control Room
Serial Communications Ports and Protocols
DCS
Operator Interface Station
System Configuration using Safety System Software
Custom Graphics using HMI Software
End Users:
Programmable Logic Controller (PLC), Distributes Control System (DCS) or System Control and Data Acquisition (SCADA)

OVERVIEW


KEY:
INPUT Supervised Inputs
OUTPUT Supervised Outputs
MISC Miscellaneous LON Devices
INPUT X3301 / X3302 Multispectrum IR Hydrogen Flame Detector
INPUT X9800 Single Frequency IR Flame Detector
INPUT X5200 UVIR Flame Detector
INPUT X2200 UV Flame Detector
INPUT EQ22XXIDCSC IDC Short Circuit
INPUT C7050/UVHT UV Flame Detector
INPUT EQ22XXIDC Initiating Device Circuit
INPUT EQ22XXDCUEX Digital Communications Unit
Addressable devices are wired into the LON Communications Loop
INPUT EQ3710AIM Analog Input Module
INPUT EQ22XXDCU Digital Communications Unit
INPUT/ OUTPUT EQ3730 Enhanced Discrete I/O Module
INPUT PIRECL PointWatch® Eclipse Point IR Gas Detector
INPUT/ OUTPUT EQ3700 Discrete I/O Module
INPUT OPECL Open Path Eclipse Gas Detector
OUTPUT EQ3740IPM Intelligent Protection Module
MISC EQ22XXIDCGF IDC Ground Fault
MISC EQ2100PSM Power Supply Monitor
OUTPUT EQ3720 Relay Module
Power Supply Monitor and Power Supply used together
MISC EQ300X Controller
MISC EQ21XXPS Power Supply
MISC EQ24XXNE Network Extender
OUTPUT EQ22XXSAM Signal Audible Module
OUTPUT EQ25XXARM Agent Release Module

NOTES

CONTROL ROOM

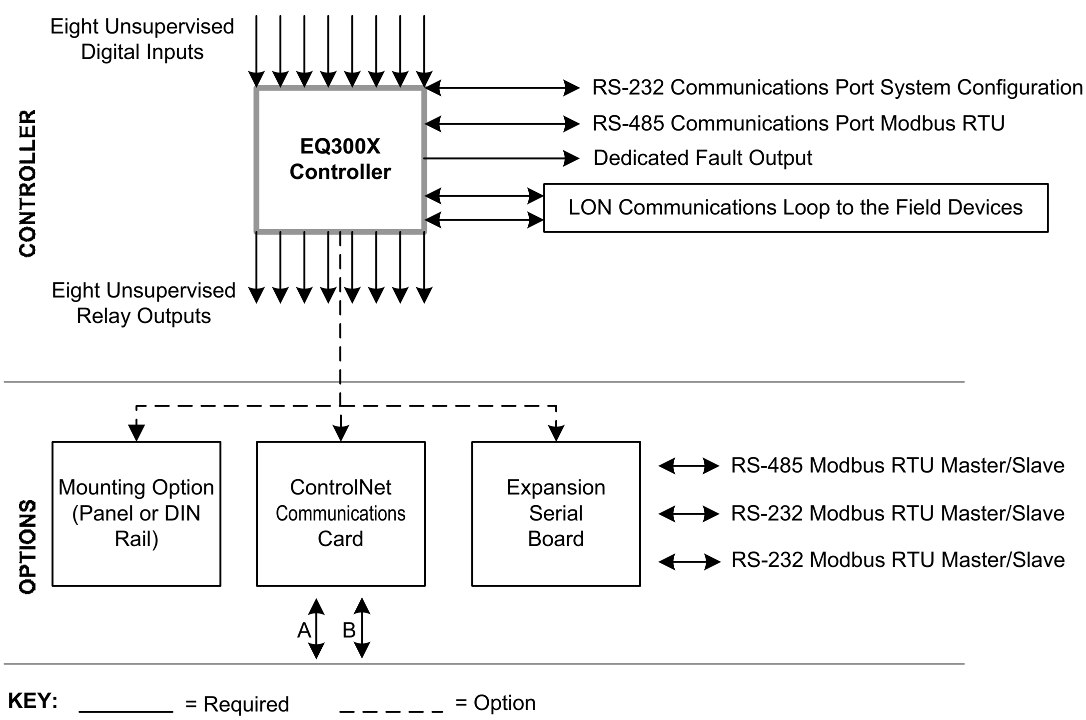
Eagle Quantum Premier® Controller • EQ3001





Eagle Quantum Premier Controller • EQ3001 (Spec Sheet: 90-1148) The Eagle Quantum Premier™ Controller is a microprocessor-based module that performs all the communication and control functions for the system. The controller can be configured in a simplex or redundant mode of operation. It includes all the required operator interface controls for a fire alarm and releasing system.

- Fire detection and alarm
- Fire suppression control
- Gas detection and alarm
- Simplex or redundant operation
- **Models with SIL 2 certification**
- Programmable logic
- Multiple serial ports (three RS-232 and two RS-485)
- Transformer isolation of network ports
- Utilizes Modbus RTU or Allen Bradley protocols
- ControlNet Interface (Optional)
- Eight Programmable Relay Outputs
- Dedicated Fault Output
- Eight Digital Inputs
- Four-line, 20-character alphanumeric display
- LED status indicators
- Fault-tolerant communication loop
- Extensive built-in diagnostics
- Real-time clock
- Compact design
- US Coast Guard type approval under 46 CFR 161.002.
- FM approved Proprietary Supervising Station System, defined in NFPA 72 2002



EQ3001 Controller Model Matrix

MODEL	DESCRIPTION
EQ3001	Eagle Quantum Premier Controller

TYPE	MOUNTING OPTION
D	Din Rail
P	Panel

TYPE	COM Board 1
N	None
C	Control Net

TYPE	COM Board 2
N	None
S	Serial Expansion

TYPE	APPROVALS
T	SIL/FM/CSA/ATEX/CE
W	FM/CSA/ATEX/CE
R	VNIIPO/VNIIFTRI (RUSSIA)

EQ3001 Controller

Model	Part Number	Mounting	ControlNet	Serial Expansion Board	FM/CSA/ ATEX/CE	Ship Weight
EQ3001PNNW	007609-062	Panel			X	5.0 lb (2.3 kg)
EQ3001DNNW	007609-063	DIN			X	5.0 lb (2.3 kg)
EQ3001PCNW	007609-065	Panel	X		X	5.0 lb (2.3 kg)
EQ3001DCNW	007609-066	DIN	X		X	5.0 lb (2.3 kg)
EQ3001PNSW	007609-067	Panel		X	X	5.0 lb (2.3 kg)
EQ3001DNSW	007609-068	DIN		X	X	5.0 lb (2.3 kg)
EQ3001PCSW	007609-069	Panel	X	X	X	5.0 lb (2.3 kg)
EQ3001DCSW	007609-070	DIN	X	X	X	5.0 lb (2.3 kg)
EQ3001PCSW-C*	007609-269	Panel	X	X	X	5.0 lb (2.3 kg)

*US Coast Guard type approval under 46 CFR 161.002

EQ3001 Controller – SIL

Model	Part Number	Mounting	ControlNet	Serial Expansion Board	SIL/FM/CSA/ ATEX/CE	Ship Weight
EQ3001PNNT	007609-072	Panel			X	5.0 lb (2.3 kg)
EQ3001DNNT	007609-073	DIN			X	5.0 lb (2.3 kg)
EQ3001PCNT	007609-075	Panel	X		X	5.0 lb (2.3 kg)
EQ3001DCNT	007609-076	DIN	X		X	5.0 lb (2.3 kg)
EQ3001PNST	007609-077	Panel		X	X	5.0 lb (2.3 kg)
EQ3001DNST	007609-078	DIN		X	X	5.0 lb (2.3 kg)
EQ3001PCST	007609-079	Panel	X	X	X	5.0 lb (2.3 kg)
EQ3001DCST	007609-080	DIN	X	X	X	5.0 lb (2.3 kg)

EQ3001 Controller – Russia

Model	Part Number	Mounting	ControlNet	Serial Expansion Board	VNIIPO/ VNIIFTRI (Russia)	Ship Weight
EQ3001PNNR	007609-962	Panel			X	5.0 lb (2.3 kg)
EQ3001DNNR	007609-963	DIN			X	5.0 lb (2.3 kg)
EQ3001PCNR	007609-965	Panel	X		X	5.0 lb (2.3 kg)
EQ3001DCNR	007609-966	DIN	X		X	5.0 lb (2.3 kg)
EQ3001PNSR	007609-967	Panel		X	X	5.0 lb (2.3 kg)
EQ3001DNSR	007609-968	DIN		X	X	5.0 lb (2.3 kg)
EQ3001PCSR	007609-969	Panel	X	X	X	5.0 lb (2.3 kg)
EQ3001DCSR	007609-970	DIN	X	X	X	5.0 lb (2.3 kg)

CONTROL ROOM

Redundancy Parts

Part Number	Description	Ship Weight
008981-001	Controller to Controller High Speed Serial Cable (4 ft)	1.0 lb (0.45 kg)
008982-001	LON Termination Module (2 required per LON)	1.0 lb (0.45 kg)

Controller Communication Cables

Part Number	Description	Length			Ship Weight
		15 ft. (4.57 m)	30 ft. (9.14m)	50 ft. (15.24m)	
007633-001	Controller RS-232 Cable (DB9 Female PC Connection)	X			1.0 lb (0.45 kg)
007633-002	Controller RS-232 Cable (DB9 Female PC Connection)		X		1.0 lb (0.45 kg)
007633-003	Controller RS-232 Cable (DB9 Female PC Connection)			X	1.6 lb (0.7 kg)

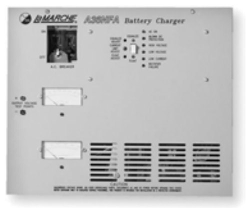
Typical Order for a Redundant System

Qty	Part Number	Description
2	007609-078	EQ3001DNST Controller
1	008981-001	Controller to Controller High Speed Serial Cable (4 ft)
2	008982-001	LON Termination Module (2 required per LON)

NOTES

CONTROL ROOM

Power Supplies



Power Supply. Six power supply options are available:

- 10 Amp / 60HZ (EQ2110PS)*
- 30 Amp / 60HZ (EQ2130PS)*
- 75 Amp / 60HZ (EQ2175PS)*
- 10 Amp / 50HZ (EQ2111PS)*
- 30 Amp / 50HZ (EQ2131PS)*
- 75 Amp / 50HZ (EQ2176PS)*

Contact the factory for additional options and current certifications
*Requires the use of the DEC Power Supply Monitor, detailed below.

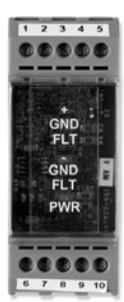


EQ2100PSM Power Supply Monitor (Spec Sheet: 90-1134) is used in conjunction with any of the above power supplies and backup batteries to provide an approved source of power for the Eagle Quantum Premier® system. Since the power supply monitor resides on the communication loop (LON), any trouble condition related to system power will immediately be reported to the Operator Interface Station through the Local Control Unit. Status conditions being monitored include power supply failure, loss of AC power, loss of battery power, power ground fault, AC voltage, DC voltage, and battery changing current levels.

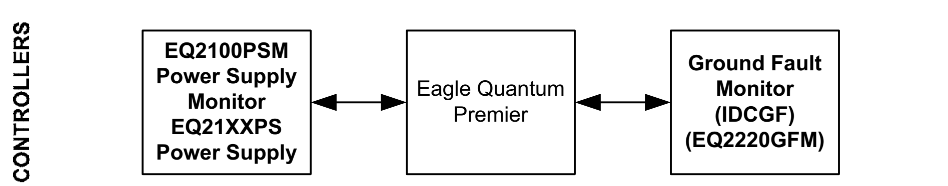
- Supports ANSI/NFPA 72 Class A, Style 7 communication
- Monitors primary AC supply and battery integrity
- Compatible with 10, 30 and 75 amp output power supplies
- Field addressable
- FMRC approved and CSA Certified for use in Eagle Quantum™
- Feet for panel mounting



Ground Fault Monitor IDCGF (Spec Sheet: 90-1134). The Initiating Device Circuit Ground Fault module monitors the Eagle Quantum Premier® system for ground faults and provides one supervised digital input for detection of power supply trouble. It is intended for use with a third-party power supply that supplies a dry contact output for indicating a trouble condition. This module is housed in an explosion-proof NEMA 4X rated metal enclosure for installation in hazardous locations and can be located at any point on the communication loop.



EQ2220GFM Ground Fault Monitor (Spec Sheet: 90-1134) provides ground fault monitoring in a system that includes reliable dual isolated 24 Vdc power. The output from the ground fault monitor is a contact closure in the presence of a ground fault. The ground fault monitor is DIN rail mountable and is intended to be mounted in the same enclosure as the controller.



Power Supply

Model	Part Number	Description	Ship Weight
EQ2110PS*	000604-013	EQ2110PS 10A 120VAC 60HZ	50 lb (25.0 kg)
EQ2130PS*	000604-014	EQ2130PS 30A 120/208/220 60HZ	115 lb (57.5 kg)
EQ2175PS*	000604-015	EQ2175PS 75A 120/208/220 60HZ	150 lb (75.0 kg)
EQ2111PS*	000604-034	EQ2111PS 10A 220/240VAC 50HZ	50 lb (25.0 kg)
EQ2131PS*	000604-035	EQ2131PS 30A 220/240VAC 50HZ	115 lb (57.5 kg)
EQ2176PS*	000604-036	EQ2176PS 75A 220/240VAC 50HZ	150 lb (75.0 kg)

* Requires use of DEC Power Supply Monitor

Power Supply Monitor (For use with power supply above)

Model	Part Number	Description	Ship Weight
EQ2100PSM	006979-001	Power Supply Monitor	5 lb (2.3 kg)

Ground Fault Monitor (For field power supplies and hazardous area location)

Model	Part Number	Description	Material	Thread	Ports	FM/CSA ATEX/CE	Ship Weight
EQ2203IDCGF	006943-002	Ground Fault Monitor	AL	3/4 NPT	5	X	5 lb (2.3 kg)
EQ2207IDCGF	006943-003	Ground Fault Monitor	AL	M25/M20	5	X	5 lb (2.3 kg)
EQ2213IDCGF	006943-005	Ground Fault Monitor	SS	3/4 NPT	5	X	10 lb (4.5 kg)
EQ2217IDCGF	006943-006	Ground Fault Monitor	SS	M25/M20	5	X	10 lb (4.5 kg)
EQ22EMIDCGF	000506-013	GF Electronic Module- Panel Mount					3 lb (1.4 kg)

Ground Fault Monitor

Model	Part Number	Description	Ship Weight
EQ2220GFM	007941-001	Ground Fault Monitor	0.5 lb (0.2 kg)
EQ2220GFMR	007941-901	Ground Fault Monitor	0.5 lb (0.2 kg)

Power Supply and Diode Block for USCG approved system

Model	Part Number	Description	Ship Weight
EQP2120PS-B	009929-001	EQP2120PS-B 20A 100/240V	6.5 lb (3 kg)
N/A	009934-001	DIODE REDUNDANCY MOD W/MTG BKT	2.0 lb (0.90 kg)

CONTROL ROOM

Operator Interface Safety System Software

Safety System Software (S3). The Eagle Quantum Premier® uses the safety system software to provide a user friendly, fully integrated, high performance package. The software provides convenient and accurate system configuration and status information including diagnostic and trouble shooting tools. An optional embedded OPC server provides additional flexibility.

The software database contains all of the information to easily configure the Eagle Quantum Premier. All device information is presented in a series of user-friendly point configuration screens. Point display screens for each node are available to display detailed status information, recent alarms and calibration records.

In summary the software collects, tracks, displays, and distributes your safety system information while allowing intuitive operator input for command and control functions of these safety systems.

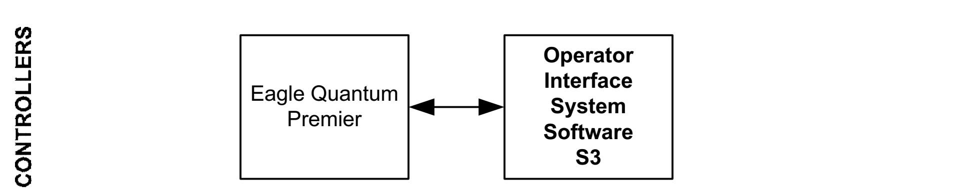
Operating System Requirements:
The software requires an Intel based computer (400 MHz Pentium or higher with a minimum of 128 MB RAM), running Microsoft Windows 2000 or Windows XP Professional. For installation purposes the software must have at least 30 megabytes of free memory space and an available CD-ROM drive.

The Safety System Software has the following features:

- Configure field devices
- Program, simulate, monitor and document controller logic
- Review real time status through pre-built point displays
- An optional OPC Server license is available

Package Includes:

- S3 Installation software
- 30 ft. serial cable with DB9 serial and EQP interface connectors
- Licensed software key



Operating Interface Safety System Software

Part Number	Description	Ship Weight
007800-011*	Safety System Software configuration/runtime package 60 node version without OPC driver, USB key.	0.5 lb (0.23 kg)
007800-012*	Safety System Software configuration/runtime package 60 node version with OPC driver, USB key.	0.5 lb (0.23 kg)
007800-013*	Safety System Software configuration/runtime package 250 node version without OPC driver, USB key.	0.5 lb (0.23 kg)
007800-014*	Safety System Software configuration/runtime package 250 node version with OPC driver, USB key.	0.5 lb (0.23 kg)
007800-002*	Safety System Software configuration/runtime package 60 node version without OPC driver, parallel key.	0.5 lb (0.23 kg)
007800-003*	Safety System Software configuration/runtime package 60 node version with OPC driver, parallel key.	0.5 lb (0.23 kg)
007800-004*	Safety System Software configuration/runtime package 250 node version without OPC driver, parallel key.	0.5 lb (0.23 kg)
007800-005*	Safety System Software configuration/runtime package 250 node version with OPC driver, parallel key.	0.5 lb (0.23 kg)

* It is strongly recommended that purchasers of S3 attend the appropriate training class:
Course 102: EQP SYSTEMS ADVANCED TECHNICAL TRAINING – Register at Det-Tronics University from the website: www.det-tronics.com.

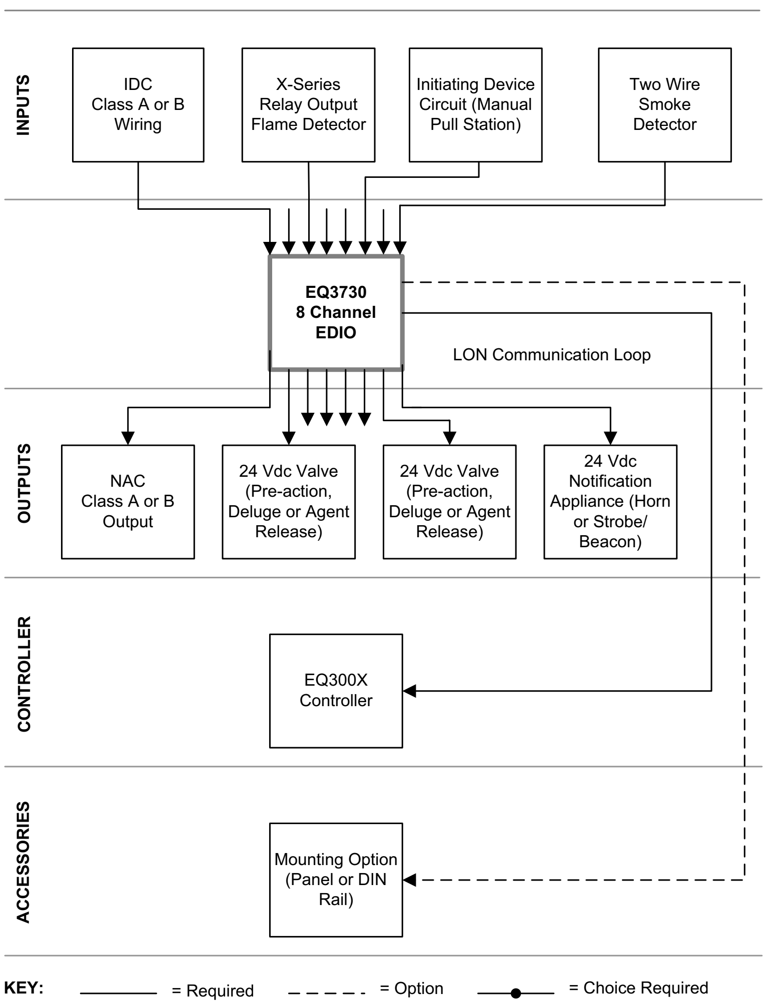
EQ3730EDIO Enhanced Discrete Input/Output Module (EDIO)





EQ3730EDIO Enhanced Discrete Input/Output Module (EDIO) • (Spec Sheet: 90-1189)
The 8 Channel EDIO Module is specially designed to expand the input and output (I/O) capability of the Det-Tronics Eagle Quantum Premier® System. The unit is designed to provide continuous and automated fire/gas protection while ensuring system operation through continuous supervision of system I/O and signaling line circuit (SLC). The EDIO module provides eight channels of configurable input or output points that can be configured as input/output, two-wire smoke/heat detector, Class A input, Class A output. Each input point can accept fire detection devices such as heat, smoke, or unitized flame detectors. Each output point can be configured for dry contacts, signaling, or releasing output operation. Each channel on the module is provided with individual indicators for active and fault conditions.

- Monitors eight independent I/O channels
- Individual channels are configurable as an input/output/two-wire smoke/heat detectors/ Class A input/Class A output
- A smoke/heat channel can support up to 15 two-wire smoke and heat devices per channel
- For Class A input and output wiring two channels are required per Class A circuit
- **Models with SIL 2 certification**
- Individual point Style is configurable as a supervised or an unsupervised point
- User configurable supervision for opens and/or shorts
- Individual point Type is configurable for alarm/supervisory/other input styles, notification/releasing/dry contact output
- Exceeds the requirements of NFPA 72
- Panel or DIN rail mounting



EQ3730 EDIO Model Matrix

MODEL	DESCRIPTION		
EQ3730	8 Channel Enhanced Discrete Input/Output (EDIO) Module		
	TYPE	**MOUNTING OPTION**	
	D	DIN Rail	
	P	Panel	
		TYPE	**APPROVAL AGENCY**
		W	FM/CSA/ATEX/CE
		T	SIL/FM/CSA/ATEX/CE
		R	VNIIPO/VNIIFTRI (RUSSIA)

EQ3730 EDIO Module

Model	Part Number	Material	FM/CSA/ ATEX/CE	Ship Weight
EQ3730PW	009174-002	AL	X	1.0 lb (0.45 kg)
EQ3730DW	009174-003	AL	X	2.0 lb (0.90 kg)

EQ3730 EDIO Module - SIL

Model	Part Number	Material	SIL/FM/CSA/ ATEX/CE	Ship Weight
EQ3730PT	009174-012	AL	X	1.0 lb (0.45 kg)
EQ3730DT	009174-013	AL	X	2.0 lb (0.90 kg)

EQ3730 EDIO Module - Russia

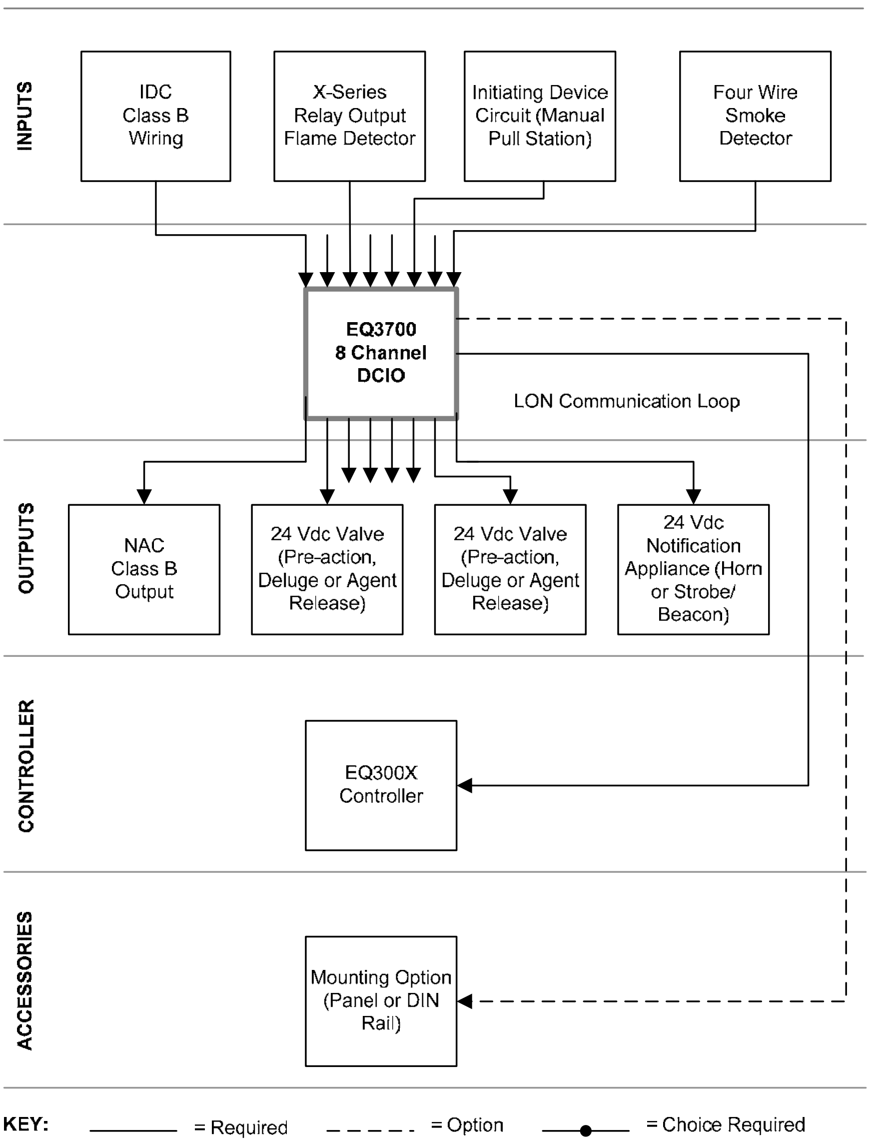
Model	Part Number	Material	VNIIPO/ VNIIFTRI (Russia)	Ship Weight
EQ3730PR	009174-902	AL	X	1.0 lb (0.45 kg)
EQ3730DR	009174-903	AL	X	2.0 lb (0.90 kg)

EQ3700DCIO Discrete Input/Output Module (DCIO)



EQ3700DCIO Input/Output Module (DCIO) • (Spec Sheet: 90-1149) The 8 Channel DC I/O Module is specially designed to expand the Input and Output (I/O) capability of the Det-Tronics Eagle Quantum Premier® System. The unit is designed to provide continuous and automated fire/gas protection while ensuring system operation through continuous supervision of system I/O and signaling line circuit (SLC). The DCIO module provides eight channels of configurable I/O points that can be programmed for supervised or unsupervised operation. Each input point can accept fire detection devices such as heat, smoke, or unitized flame detectors. Each output point can be configured for dry contacts, signaling or releasing output operation. Each channel on the module is provided with individual indicators for active and fault conditions.

- Monitors eight independent I/O channels
- Individual channels are configurable as an Input or Output
- Individual point Style is configurable as a supervised or an unsupervised point
- Individual point Type is configurable for alarm/supervisory/other input styles, notification/releasing/dry contact output
- Meets the requirements of NFPA 72
- Panel or DIN rail mounting



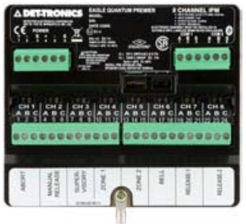
8 Channel DCIO Module Model Number Matrix

MODEL	DESCRIPTION		
EQ3700	8 Channel Discrete Input/Output (DCIO) Module		
	TYPE	MOUNTING OPTION	
	D	DIN Rail	
	P	Panel	
		TYPE	APPROVAL AGENCY
		W	FM/CSA/ATEX/CE

8 Channel DCIO Module

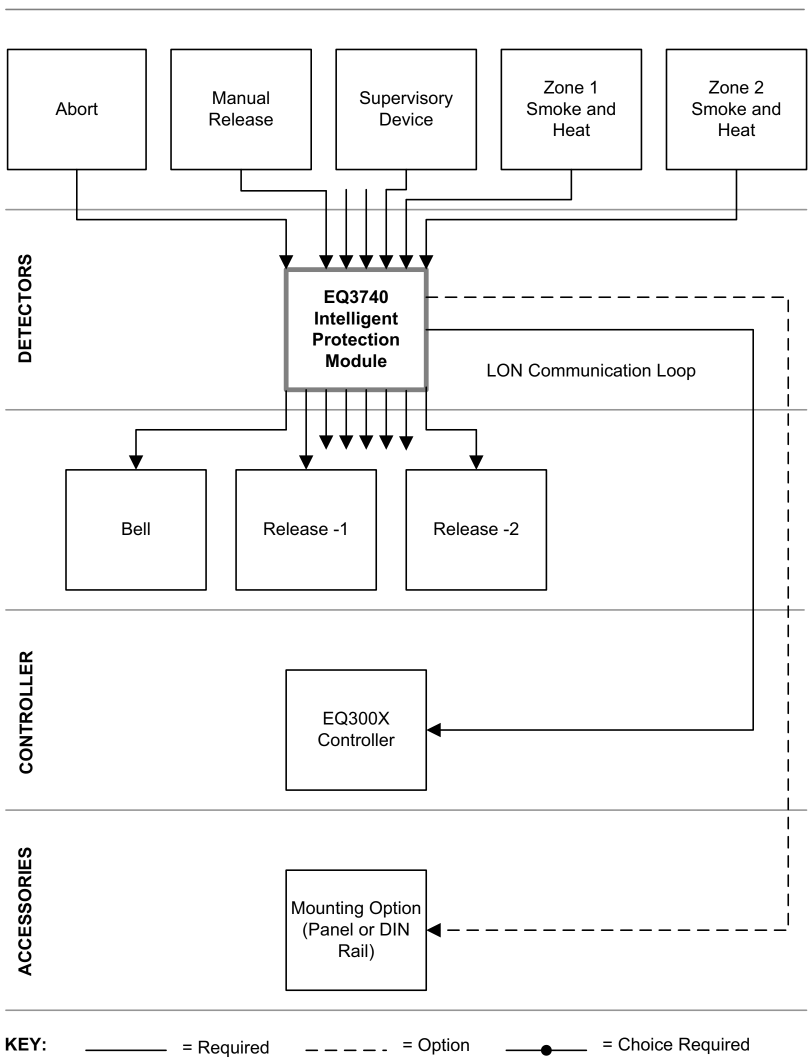
Model	Part Number	Material	FM/CSA/ ATEX/CE	Ship Weight
EQ3700PW	007371-002	AL	X	1.0 lb (0.45 kg)
EQ3700DW	007371-003	AL	X	2.0 lb (0.90 kg)

EQ3740IPM Intelligent Protection Module



EQ3740IPM Intelligent Protection Module (Spec Sheet: 90-1184). The IPM is designed to provide continuous and automated local area fire protection, while monitoring system operation through continuous supervision of its inputs/outputs (I/O) and Local Operating Network/Signaling Line Circuit (LON/SLC) connection to the EQP controller. In addition, the module contains a unique "embedded logic program" that if enabled during configuration, allows the IPM to perform local area protection in a "back-up mode" without controller interaction. The IPM utilizes eight pre-configured I/O channels to perform its monitoring, supervision, and mitigation functions.

- Provides a pre-packaged single hazard protection solution to the Det-Tronics Eagle Quantum Premier® system
- Eight independent, supervised I/O channels
- Individual channels have the pre-assigned functions necessary to deliver a single hazard protection solution
- Supports two conventional "two-wire" smoke/heat zones including the ability to reset latched zones. Does not require the use of "relay bases"
- Individual points are supervised in accordance with NFPA requirements for alarm/supervisory/other input styles, notification/releasing outputs
- Panel or DIN rail mounting
- Meets the requirements of NFPA 72



8 Channel IPM Module Matrix

MODEL	DESCRIPTION		
EQ3740	Intelligent Protection Module (IPM)		
	TYPE	**MOUNTING OPTION**	
	D	DIN Rail	
	P	Panel	
		TYPE	**APPROVAL AGENCY**
		W	FM/CSA/ATEX/CE

Intelligent Protection Module

Model	Part Number	Material	FM/CSA/ ATEX/CE	Ship Weight
EQ3740PW	008055-002	AL	X	1.0 lb (0.45 kg)
EQ3740DW	008055-003	AL	X	2.0 lb (0.90 kg)

DEVICES

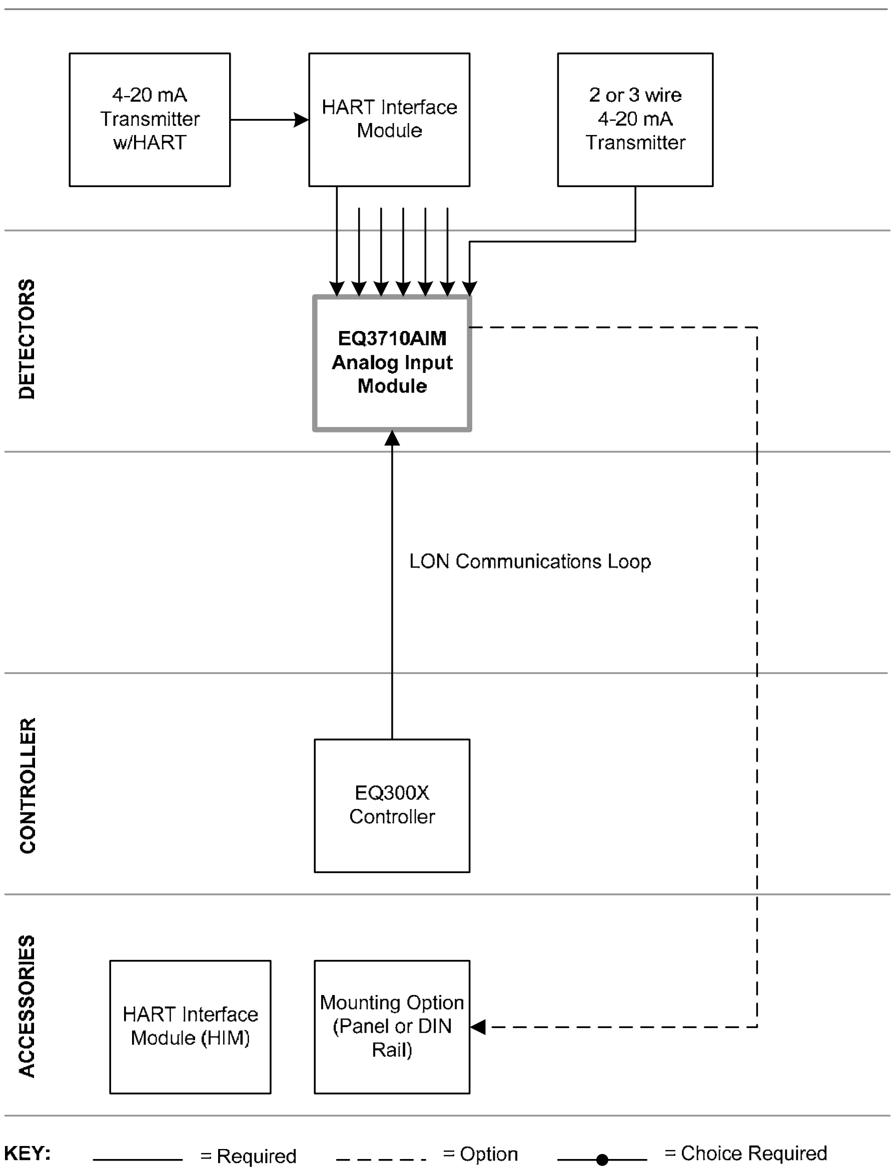
EQ3710AIM Analog Input Module



EQ3710AIM Analog Input Module (Spec Sheet: 90-1183). The 8 Channel Analog Input Module expands the input capability of the Det-Tronics Eagle Quantum Premier® System.
The unit provides a means of connecting devices with a 4-20 mA output signal to the Eagle Quantum Premier System.

Each channel is fully configurable to provide device and alarm information. This information includes tag name, descriptor, engineering units, fault alarm, low/high alarm, and alarm threshold limits.

- NFPA 72 Approved 4-20 mA flame detector input
- Monitors eight independent channels
- Panel or DIN rail mounting
- Optional HART Interface module (HIM) available
- Supports 2 or 3 wire 4020 mA transmitters



8 Channel Analog Input Module Matrix

MODEL	DESCRIPTION		
EQ3710	8 Channel Analog Input (AI) Module		
	TYPE	MOUNTING OPTION	
	D	Din Rail	
	P	Panel	
		TYPE	APPROVAL AGENCY
		W	FM/CSA/ATEX/CE

8 Channel Analog Input Module

Model	Part Number	Material	FM/CSA/ ATEX/CE	Ship Weight
EQ3710DW	007918-003	AL	X	2.0 lb (0.90 kg)
EQ3710PW	007918-002	AL	X	1.0 lb (0.45 kg)

HART Interface Module

Part Number	Description
008056-001	HART Interface Module

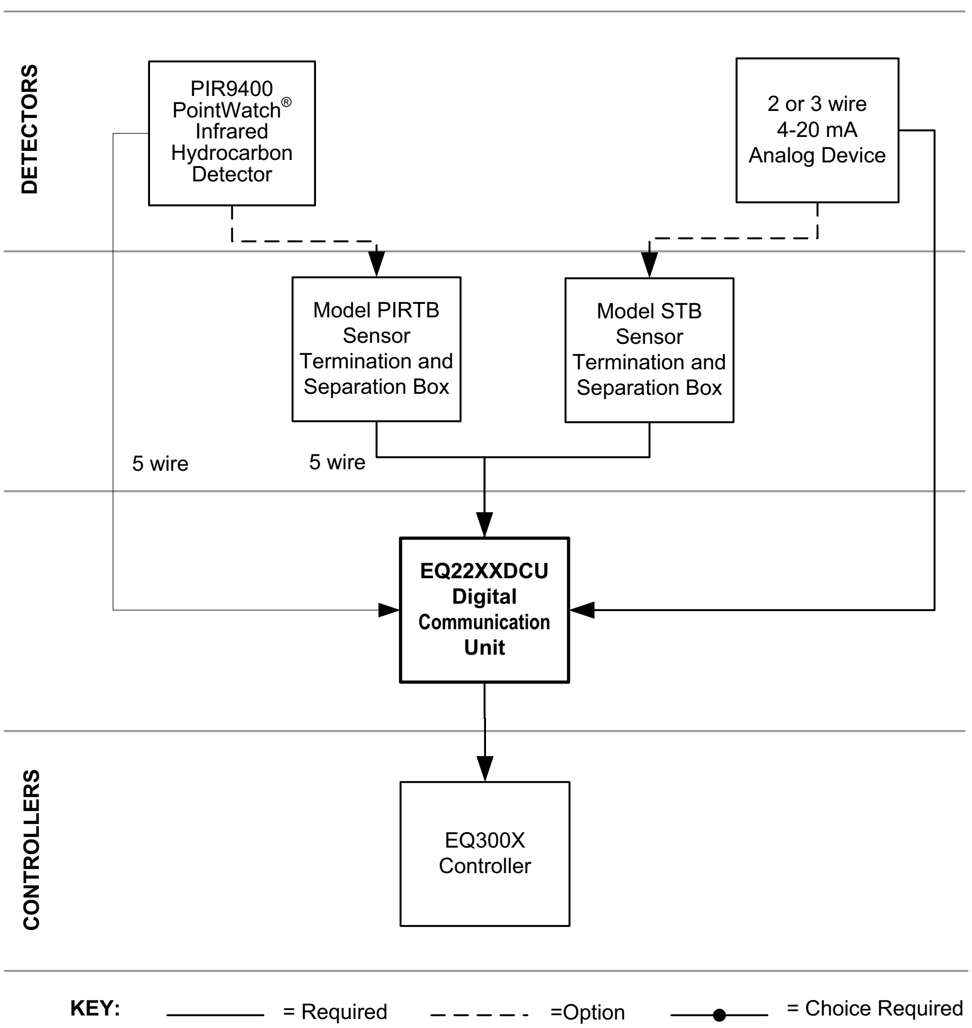
DEVICES

EQ2200DCU Series Digital Communication Unit



EQ2200DCU Series Digital Communication Unit (Spec Sheet: 90-1118) is approved for use with a variety of Det-Tronics sensors including PointWatch® IR gas detector and hydrogen sulfide (H_2S) electrochemical sensor. It will also accept any sensor/transmitter with a linear 4 to 20 mA output signal and allows for one person non-intrusive calibration. The DCU digitizes the analog signal and transmits the value to the controller.

- Accepts 4-20 mA input from a variety of detection devices (PointWatch®, toxic sensors, pressure, flow, etc.)
- One person non-intrusive calibration
- Alarm setpoints adjustable via network
- Alarm history stored in nonvolatile memory
- Calibration history stored in nonvolatile memory
- Active fault isolation
- Self diagnostics
- Detector can be close-coupled or separated
- Supports sensor separation



Digital Communication Unit

Model	Part Number	Description	Material	Thread	Ports	FM/CSA/ ATEX/CE	Ship Weight
EQ2207DCU	006607-005	DCU Assy., Std	AL	M25/M20	5	X	6 lb (2.7 kg)
EQ2217DCU	006607-011	DCU Assy., Std	SS	M25/M20	5	X	10 lb (4.5 kg)
EQ2253DCU	006607-017	DCU Assy., Std	AL	3/4 NPT	5	X	6 lb (2.7 kg)
EQ2263DCU	006607-019	DCU Assy., Std	SS	3/4 NPT	5	X	10 lb (4.5 kg)
EQ22EMDCU	000506-005	Full Elect. Module Assy - Panel Mount					3 lb (1.4 kg)

Sensors/Transmitters for DCU

Model	Part Number	Description	Thread	Approvals		Ship Weight
				FM/CSA	ATEX/CE	
C7064E4012	004539-009	H_2S Transmitter	3/4 NPT	X		2.5 lb (1.28 kg)
C7064E5012	004539-102	H_2S Transmitter	20 mm		X	2.5 lb (1.28 kg)
DE5434-003	005434-003	H_2S Sensor (0-20)		X	X	2 oz (0.09 kg)
DE5434-004	005434-004	H_2S Sensor (0-50)		X	X	2 oz (0.09 kg)
DE5434-002	005434-002	H_2S Sensor (0-100)		X	X	2 oz (0.09 kg)
PIR9400A3A1AW	006300-001	Pointwatch, AL	3/4 NPT	X	X	2 lb (0.95 kg)
PIR9400A2A1AW	006300-002	Pointwatch, AL	20 mm	X	X	2 lb (0.95 kg)

Replacement Parts–DCU

Part Number	Description	Ship Weight
006642-004	Communications Module (top board)	4 lb (1.8 kg)
006586-002	Terminal Board, DCU	4 lb (1.8 kg)
006122-002	RibbonCable (Long–for tall cover)	4 oz (0.1 kg)
101173-029	Standoffs, 2.25 in. (two required)	4 oz (0.1 kg)

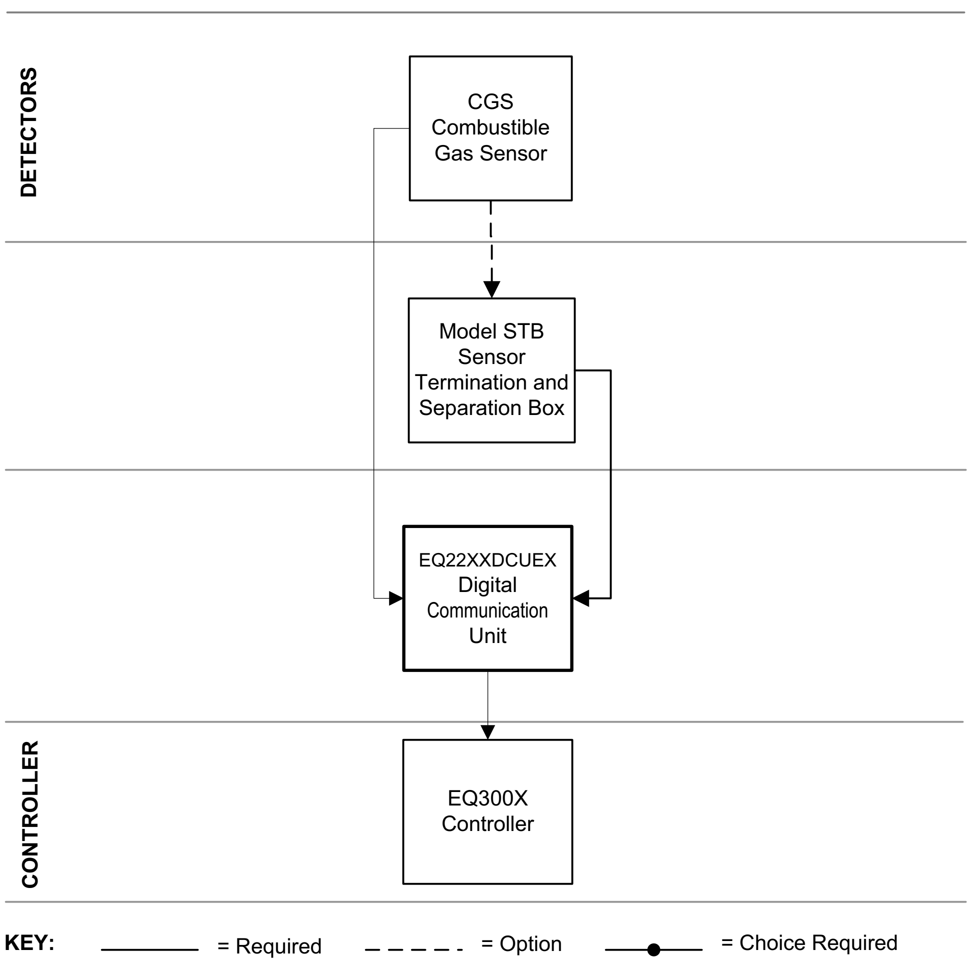
EQ2200DCUEX Series Digital Communication Unit





EQ2200DCUEX Series Digital Communication Unit (Spec Sheet: 90-1118) is a digital communication unit for catalytic combustible gas sensors (CGS). The DCUEX digitizes the analog signal and transmits the value to the controller.

- One person non-intrusive calibration
- Alarm setpoints adjustable via network
- Alarm history stored in non-volatile memory
- Calibration history stored in nonvolatile memory
- Active fault isolation
- Self diagnostics
- Detector can be close-coupled or separated
- Supports sensor separation



Digital Communication Unit - Combustible Sensor Only

Model	Part Number	Description	Material	Thread	Ports	FM/CSA/ ATEX/CE	Ship Weight
EQ2207DCUEX	006607-006	DCUEX Assy., Std	AL	M25/M20	5	X	6 lb (2.7 kg)
EQ2217DCUEX	006607-012	DCUEX Assy., Std	SS	M25/M20	5	X	10 lb (4.5 kg)
EQ2253DCUEX	006607-018	DCUEX Assy., Std	AL	3/4 NPT	5	X	6 lb (2.7 kg)
EQ2263DCUEX	006607-020	DCUEX Assy., Std	SS	3/4 NPT	5	X	10 lb (4.5 kg)
EQ22EMDCUEX	000506-006	Full Elect. Module Assy–Panel Mount					3 lb (1.4 kg)
	102740-002	Calibration magnet					

Combustible Sensor for DCU

Model	Part Number	Description	Thread	FM/CSA/ ATEX/CE	Ship Weight
CGSS1A6C2R1X	006824-001	Constant Current Sensor	3/4"	X	1 lb (0.46 kg)
CGSS1C6C2R1X	006824-003	Constant Current Sensor	20 mm	X	1 lb (0.46 kg)

Replacement Parts–DCU

Part Number	Description	Ship Weight
006642-004	Communications Module (top board)	4 lb (1.8 kg)
006586-002	Terminal Board, DCUEX	4 lb (1.8 kg)
006108-001	Transmitter Board	4 lb (1.8 kg)
006122-002	Ribbon Cable (Long–for tall cover)	4 oz (0.1 kg)
101173-023	Standoffs, 2.0 in. (four required)	4 oz (0.1 kg)

DEVICES

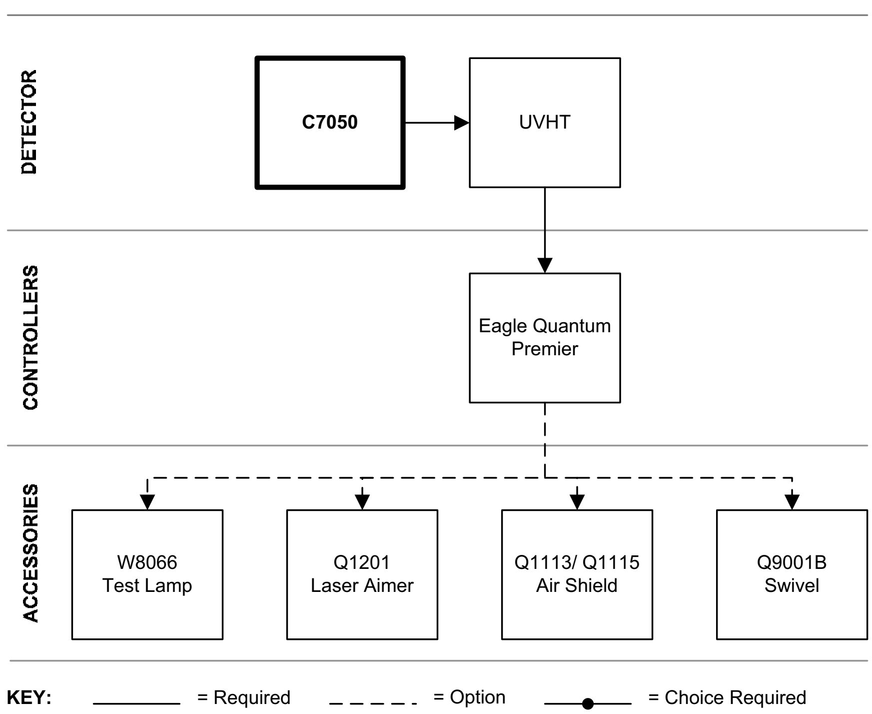
EQ2200UVHT and C7050 Detector





EQ2200UVHT (95-8570) combined with the **C7050 Detector** (Manual: 95-8214) on an EQP (or as a replacement on an older EQ system) provides fast, reliable flame detection in a wide variety of applications. The detector has the Automatic Optical Integrity (oi) feature, providing a continuous check of detector optical surfaces, detector sensitivity, and electronic circuitry of the detector/controller system. Not recommended for applications where welding or lightning may be present.

- Replaceable tube module
- External Automatic oi
- Internal Automatic oi
- Standard temperature option
- High temperature option, 125°C continuous duty
- Variable sensitivities available to match hazard
- FM, CSA, ATEX



C7050B Model Matrix

MODEL	DESCRIPTION
C7050B	Controller Based UV Flame Detector

TYPE	MATERIAL
A	Aluminum
S	Stainless Steel (316)

TYPE	
6	1 Port

TYPE	THREAD TYPE
E	1/2" NPT
F	M20

TYPE	OUTPUTS
4	Pulse (Standard)

TYPE	TUBE MODULE OPTION
A	DE1888A2 (Standard)
K	DE1888K2 (High Temp)
M	DE1888M2 (Remote Surveillance, Hydrogen Fires)
N	DE1888N2 (High Sensitivity, Special App)
T	DE1888T2 (Electrostatic App)
V	DE1888V2 (Internal Reflection)
W	DE1888W2 (Remote Surveillance, Reduced Sensitivity)
X	DE1888N (High Sensitivity)
E	DE1888K3 (High Temperature for UVHT)
Y	DE1888N3 (High Sensitivity, Moly Special, Low Current)

TYPE	OPTIONS
1S	Normal Operating Temperature 75C
1H	High Operating Temperature 125C

TYPE	APPROVAL TYPE
1	Explosion Proof

TYPE	APPROVALS
E	ATEX/CE
A	FM/CSA

C7050B Ultraviolet Flame Detectors

Model	Part Number	Encl Material	Conduit Entry	High Temp*	Tube Module	ATEX/CE	Ship Weight
C7050BS6F4K1H1E	006899-008	SS	M20	X	DE1888K2	X	2.2 lb (1.0 kg)
C7050BS6F4E1H1E	006899-040	SS	M20	X	DE1888K3	X	2.2 lb (1.0 kg)
C7050 LENS CAP/BODY	008054-001	SS	N/A		N/A	X	1 lb (0.45 kg)

*High temperature rating - continuous duty at 125 degree Celsius, for environments that normally exceed 75 degree Celsius operation.

EQP C7050/UVHT High Temp UV Detectors

Model	Part Number	Encl Material	Conduit Entry	Tube Module	FM/CSA	Ship Weight
C7050BA6E4E1H1A*	006899-037	AL	1/2"	DE1888K3	X	1.2 lb (0.6 kg)
C7050BS6E4E1H1A*	006899-038	SS	1/2"	DE1888K3	X	2.2 lb (1.0 kg)
C7050BA6F4E1H1A*	006899-039	AL	M20	DE1888K3	X	1.2 lb (0.6 kg)
EQ2253UVHT**	007082-001	AL	3/4"	N/A	X	4.0 lb (1.8 kg)
EQ2207UVHT**	007082-002	AL	M25/M20	N/A	X	4.0 lb (1.8 kg)
EQ2263UVHT**	007082-003	SS	3/4"	N/A	X	9.5 lb (4.3 kg)
EQ2217UVHT**	007082-004	SS	M25/M20	N/A	X	9.5 lb (4.3 kg)
C7050 LENS CAP/BODY	004907-021	AL	N/A	N/A	X	<1 lb (<0.45 kg)
C7050 LENS CAP/BODY	004907-022	SS	N/A	N/A	X	1 lb (0.45 kg)

*High temperature rating - continuous duty at 125 degree Celsius, for environments that normally exceed 75 degree Celsius operation.
**One (1) Electronic Module (EQxxxxUVHT) is required for use with each C7050B Detector (-037,-038, or -039 only).

DEVICES

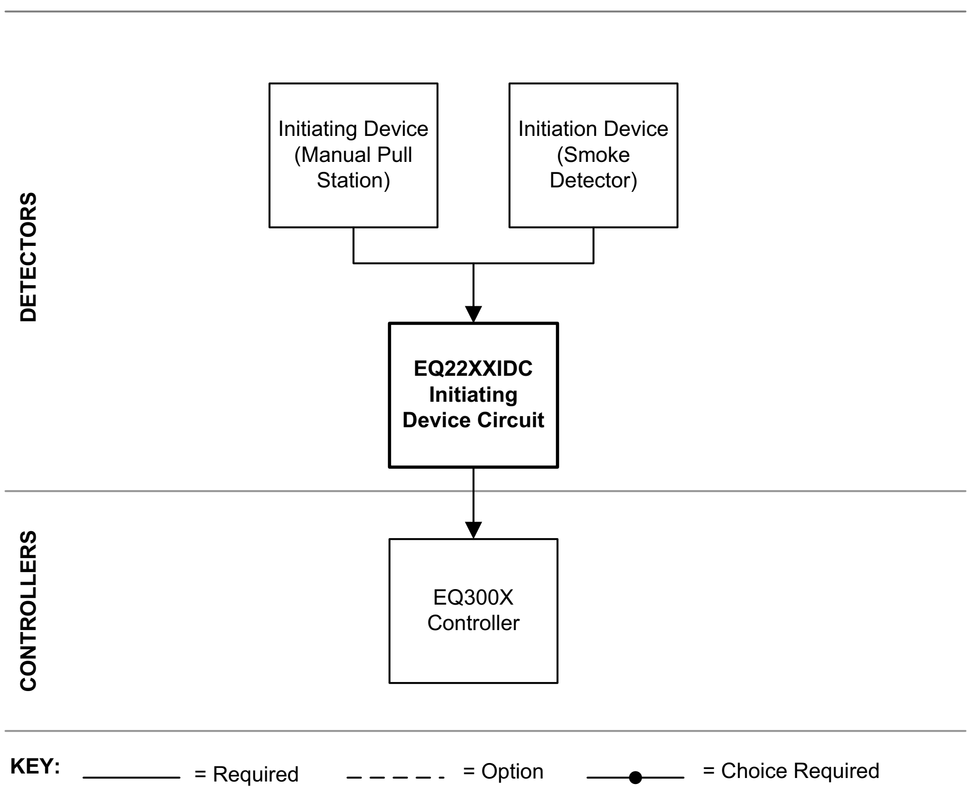
EQ2200IDC Series Initiating Device Circuit (IDC)



EQ2200IDC Series Initiating Device Circuit (IDC) (Spec Sheet: 90-1121) consists of a terminal wiring board and a communication module, mounted inside an explosion-proof, water-tight enclosure on a plate for mounting in an enclosure. The IDC accepts two dry contact inputs for use with devices such as relays, pushbuttons, and key switches.

Accepts inputs from standard “contact closure” input devices such as manual call stations, heat detectors, key-switches, and proof of agent release flow switches

- Provides two ANSI/NFPA 72 Class B Style B supervised input circuits
- Nonvolatile alarm history memory
- Active fault isolation
- Each input programmable for fire, supervisory, trouble, or normal service



Initiating Device Circuit Assembly

Model	Part Number	Material	Enclosure	Thread	Ports	FM/CSA/ ATEX/CE	ATEX/CE Only	Ship Weight
EQ2253IDC	006608-009	AL	J-Box	3/4" NPT	5	X		6 lb (2.7 kg)
EQ2263IDC	006608-010	SS	J-Box	3/4" NPT	5	X		10 lb (4.5 kg)
EQ2207IDC	006608-013	AL	J-Box	M25/M20	5	X		6 lb (2.7 kg)
EQ2217IDC	006608-016	SS	J-Box	M25/M20	5	X		10 lb (4.5 kg)
End-of-line Resistor	000106-108	10Kohm - 2 required						1 oz (0.02 kg)
EQ2207IDCSC	007257-001	AL	J-Box	M25/M20	5		X	10 lb (4.5 kg)
EQ2217IDCSC	007257-002	SS	J-Box	M25/M20	5		X	10 lb (4.5 kg)

Initiating Device Circuit Assembly–Electronic Module

Model	Part Number	Description	FM/CSA	Ship Weight
EQ22EMIDC	000506-004	Full Elect. Module Assy–Panel Mount	X	3 lb (1.4 kg)

Replacement Parts–IDC

Part Number	Description	Ship Weight
006642-005	Communications Module (top board)	3 lb (1.4 kg)
006590-003	Terminal Board, IDC	3 lb (1.4 kg)
006122-002	Ribbon Cable (Long–for tall cover)	4 oz (0.1 kg)
101173-029	Standoffs, 2.25" (two required–tall cover)	4 oz (0.1 kg)

NOTE: Refer to EQ22EMIDC above when requiring complete Electronic Module

DEVICES

Heat Detectors (Explosion-Proof)



Part Number	Description
000120-XXX	Heat Detector, Class 1, Division 1, Groups B, C & D, fixed type, rate compensated, N.O., hex head mounting, stainless steel, 1/2" NPT, UL approved, available set points are 140 ºF, 160 ºF, 190 ºF, 225 ºF, 275 ºF, 325 ºF, 360 ºF, 450 ºF, 600 ºF and 725 ºF
000120-XXX	ULC approved version
000505-001	Junction Box, with mounted terminals for vibration prone applications, meets FM vibration requirements, Class 1, Division 1, Groups C & D, surface mount, 4 port alloy housing, 3/4” NPT entry, 1/2” NPT entry in cover, UL, CSA approved.
000120-021	Junction Box, Class 1, Division 1, Groups C & D, surface mount, 4 port alloy housing, 3/4” NPT entry, 1/2” NPT entry in cover, UL, CSA approved. (Terminal block sold separately)
000133-282	Terminal Block, 2X4, 12-24AWG For use with 000120-021 Junction Box
000120-XXX	Junction Box, with loose terminal block, outdoor general purpose, surface mount, 5 port alloy housing, 1/2” NPT entry, 1/2” NPT entry in cover, NEMA 3R, UL, ULC approved

NOTE: Consult factory for pricing information covering specific heat detector supplier offerings.

Smoke Detectors and Heat Detectors (General Use)



Part Number	Description
004784-007	U5005A1001 Photoelectric Smoke Detector, Class 1, Division 2, Groups A, B, C & D, alarm and power supervision contact outputs, aluminum housing, 25 mm entry (shipped with 3/4” adapter), CSA approved. Options: Duct mount version. Consult factory for option pricing.
000119-066	Smoke Detector, ionization type, dual chamber, general purpose, c UL us/FM/CSFM/MEA.
000119-067	Smoke Detector, photoelectric type, general purpose, c UL us/FM/CSFM/MEA.
000120-149	Heat Detector, 135°F (57°C), electronic, fixed type with 15°F (8°C) rate-of-rise, general purpose, c UL us/FM/CSFM/MEA.
000120-150	Heat Detector, 135°F (57°C), electronic, fixed type, general purpose, c UL us/FM/CSFM/MEA
000119-021	2-Wire Detector Base, for smoke & electronic heat detectors, remote LED & test capabilities, c UL us
000119-005	Smoke Detector Base for 000119-066 & 000119-067, 4-wire base w/aux. relay, remote LED & remote test capabilities.
102385-002	End of Line Relay, for supervision of smoke detector power (one required for each power circuit).

NOTE: Consult factory for pricing information covering specific smoke detector supplier offerings.

Manual Call Stations



Part Number	Description
000115-XXX	Manual Call Station, Class 1, Division 1, Groups C & D, NEMA 4X, push button with lift flap (dual action), surface mount, alloy housing painted red, key for reset & test, 10K Ohm end of line resistor, two 1/2” or 3/4" entries, UL & CSA approved. Options: European approval, LED indicator, custom engraved labels, DPST, other standard or custom paint colors. Consult factory for option pricing.
000115-XXX	Manual Call Station, Class 1, Division 2, Groups A - D, NEMA 4X, break glass type, dual action when used with liftflap (not included), surface mount, GRP housing painted red, SPST, key lock for reset & test, 10K Ohm end of line resistor, two 1/2” or 3/4" entries, UL & CSA approved. Options: European approval, lift flap, push button version, LED indicator, custom engraved labels, DPST, other standard or custom paint colors. Consult factory for option pricing.
000115-XXX	Manual Call Station, outdoor general purpose, push pull (dual action), surface mount, alloy housing painted red with white lettering, SPST, key lock for reset & test, includes labels and surface mount weather-proof backbox, 1/2” entry, UL, ULC, FM, CSFM approved. Options: Break glass rod, DPST. Consult factory for option pricing.
000115-XXX	Manual Call Station, indoor general purpose, push pull (dual action), surface mount, alloy housing painted red with white lettering, key lock for reset & test, includes label and general purpose backbox, two 1/2” entries, UL, ULC, FM, CSFM approved. Options: Break glass rod, DPST. Consult factory for option pricing.

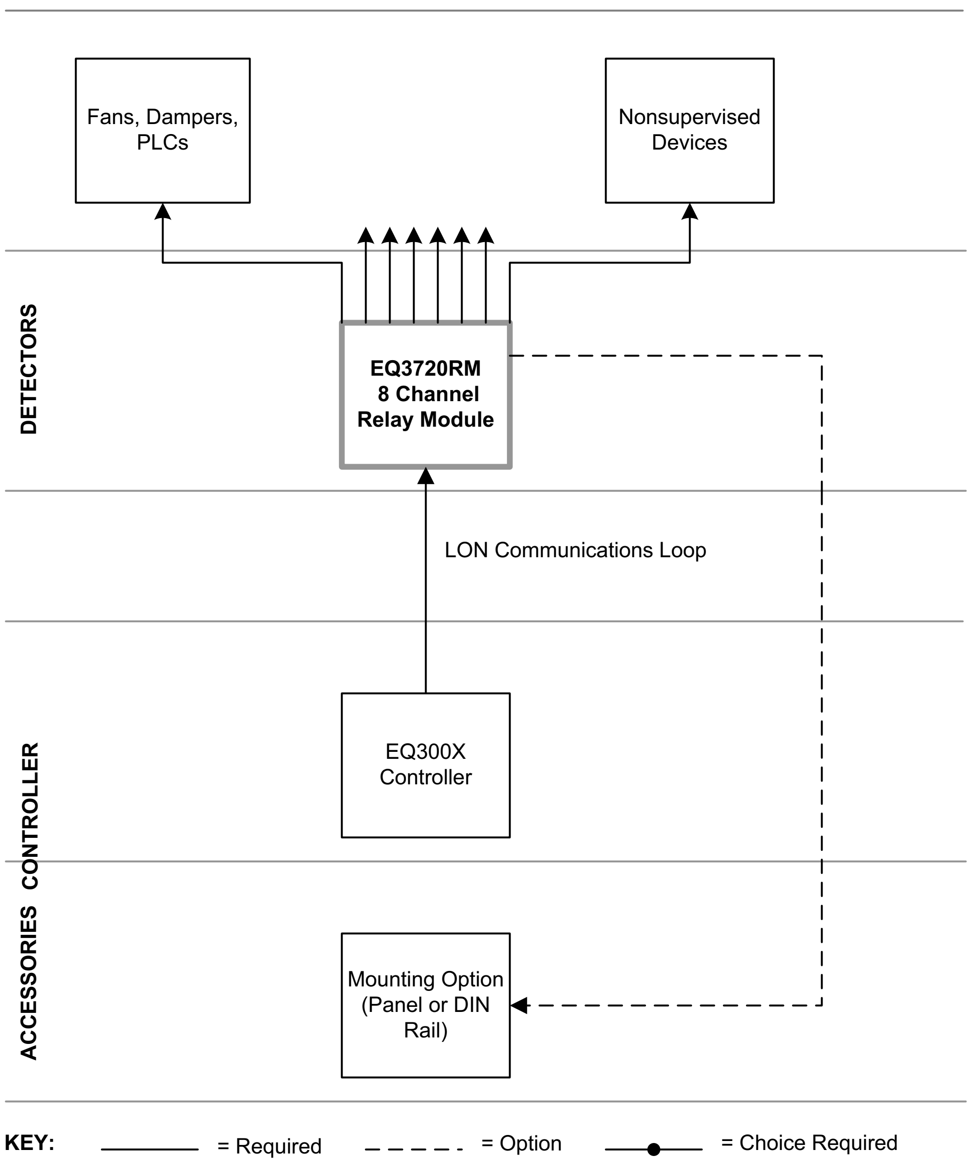
DEVICES

EQ3720RM Relay Module



EQ3720RM Relay Module • (Spec Sheet: 90-1181) The 8 Channel Relay Module is specially designed to expand the output capability of the Det-Tronics Eagle Quantum Premier® System. The Relay Module provides eight channels of relay output points that are programmed for unsupervised operation. The output relays are rated up to 2 amps per channel at 30 Vdc maximum or 0.5 amps per channel at 120 Vac.

- Monitors eight independent channels
- Panel or DIN rail mounting
- "Hold last state" capable



8 Channel Relay Module Matrix

MODEL	DESCRIPTION		
EQ3720	8 Channel Relay Module (RM)		
	TYPE	**MOUNTING OPTION**	
	D	Din Rail	
	P	Panel	
		TYPE	**APPROVAL AGENCY**
		W	FM/CSA/ATEX/CE

8 Channel Relay Module

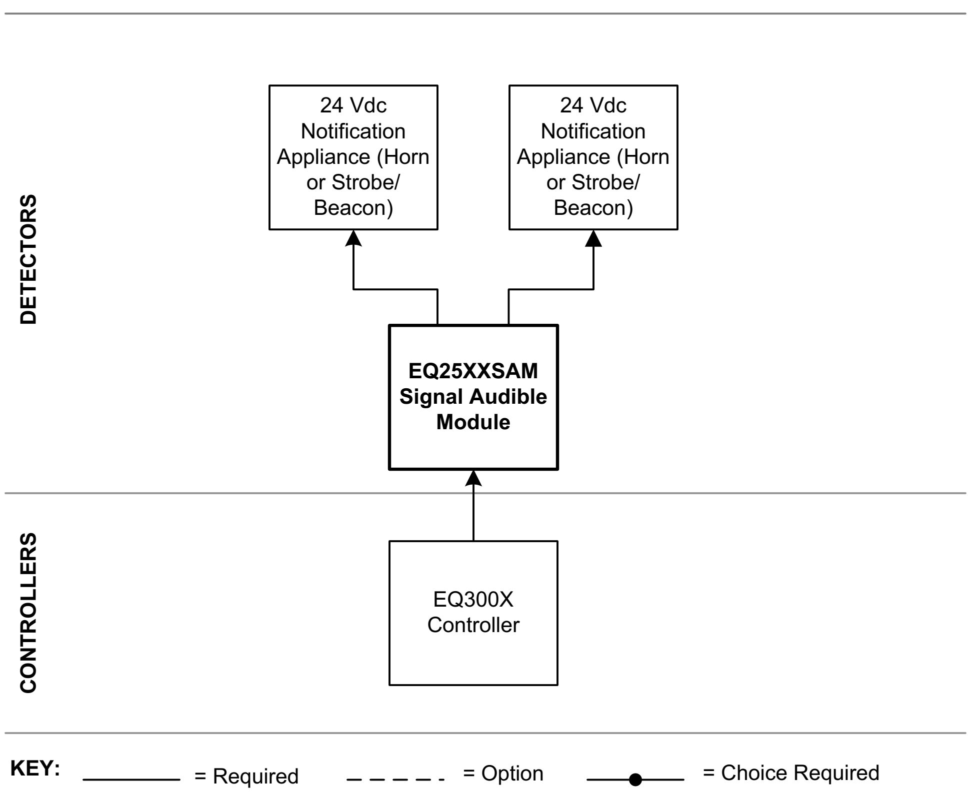
Model	Part Number	Material	FM/CSA/ ATEX/CE	Ship Weight
EQ3720DW	007792-003	AL	X	2.0 lb (0.90 kg)
EQ3720PW	007792-002	AL	X	1.0 lb (0.45 kg)

EQ2500SAM Series Signal Audible Module



EQ2500SAM Series Signal Audible Module (Spec Sheet: 90-1129) provides two indicating circuits for controlling UL Listed 24 Vdc polarized audible/visual indicating appliances. The SAM is located on the system LON and is controlled by programmable logic in the Eagle Quantum Premier® Controller. Each output circuit is independently programmable to allow annunciation of separate events. In release applications, signal outputs can be programmed to provide signaling for prerelease, release, or post-release.

- Provides two ANSI/NFPA 72 Class "B" Style "Y" output notification appliance circuits
- Each circuit is individually supervised for opens and shorts
- Each circuit is individually controlled by user logic
- Each circuit supports a variety of programmable blink/flash rates
- Current reversal on activation
- 2 output channels
- Channels are individually activated
- Each channel is supervised for open/short circuits



Signal Audible Module

Model	Part Number	Material	Thread	Ports	FM/CSA/ ATEX/CE	FM/CSA Only	Ship Weight
EQ2553SAM	006738-009	AL	3/4" NPT	5	X		6 lb (2.7 kg)
EQ2507SAM	006738-013	AL	M25/M20	5	X		6 lb (2.7 kg)
EQ2563SAM	006738-010	SS	3/4" NPT	5	X		10 lb (4.5 kg)
EQ2517SAM	006738-016	SS	M25/M20	5	X		10 lb (4.5 kg)
EQ25EMSAM	000506-007	FULL Electronic Module ASSY–Panel Mount				X	3 lb (1.4 kg)
EQ25EMSAM6	000505-003	3 electronics Modules in Ex d cabinet				X	
EQ25EMSAM4	000505-015	2 electronics Modules in Ex d cabinet				X	

SAM Replacement Parts

Part Number	Description	Ship Weight
006642-007	Communications Module (top board)	3 lb (1.4 kg)
006736-003	Terminal Board, SAM	3 lb (1.4 kg)
006122-002	Ribbon Cable (Long–for tall cover)	4 oz (0.1 kg)
101173-029	Standoffs, 2.25" (two required–tall cover)	4 oz (0.1 kg)

NOTE: Refer to EQ25EMSAM above when requiring complete electronic module.

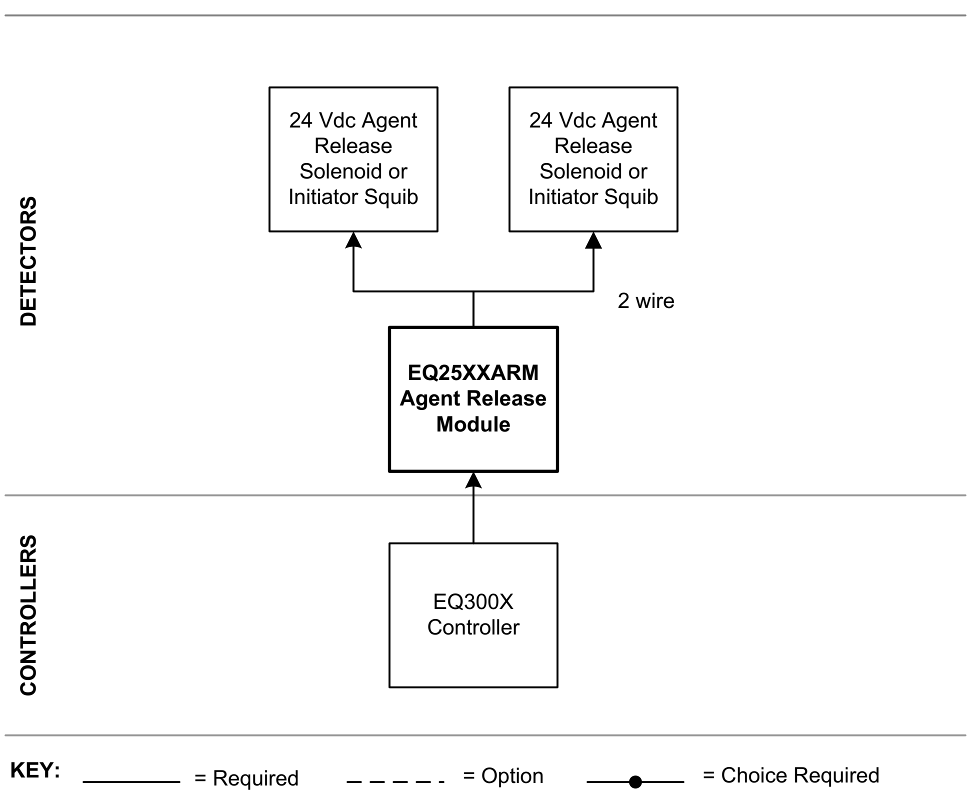
DEVICES

EQ2500ARM Series Agent Release Module



EQ2500ARM Series Agent Release Module (Spec Sheet: 90-1128) provides agent release capability for the Eagle Quantum® System. The ARM is located on the LON and is controlled by programmable logic in the Eagle Quantum Premier Controller. The ARM can be programmed for “Single,” “Cross” or “Counting” Zone Style initiation. Optional time delay, abort, and manual release sequences allow the output to be programmed for use in unique applications. Provides local control of releasing solenoids.

- Capable of actuating a single solenoid or two solenoids simultaneously
- Provides up to 2 amperes at 24 Vdc (for each output)
- Monitors wire and solenoid coil for opens
- 2 output channels
- Release activates both outputs at the same time
- Each channel is supervised for open circuits



Agent Release Module

Model	Part Number	Material	Thread	Ports	FM/CSA/ ATEX/CE	FM/CSA Only	Ship Weight
EQ2553ARM	006733-009	AL	3/4" NPT	5	X		6 lb (2.7 kg)
EQ2563ARM	006733-010	SS	3/4" NPT	5	X		10 lb (4.5 kg)
EQ2507ARM	006733-013	AL	M25/M20	5	X		6 lb (2.7 kg)
EQ2517ARM	006733-016	SS	M25/M20	5	X		10 lb (4.5 kg)
EQ25EMARM	000506-009	Full Electronic Module Assy–Panel Mount				X	3 lb (1.4 kg)

ARM Replacement Parts

Part Number	Description	Ship Weight
006642-006	Communications Module (top board)	3 lb (1.4 kg)
006731-003	Terminal Board, ARM	3 lb (1.4 kg)
006122-002	Ribbon Cable (Long–for tall cover)	4 oz (0.1 kg)
101173-029	Standoffs, 2.25" (two required–tall cover)	4 oz (0.1 kg)

NOTE: Refer to EQ25EMARM above when requiring complete electronic module.

DEVICES

Horns and Strobes



Horns and Strobes

Horns and Strobes for Class 1 Division 1 Areas

Part Number	Description
000122-XXX	Horn, Class 1, Division 1, Groups C & D, NEMA 4X, 27 user selectable tones, up to 100 dBA @10 ft., various voltages, surface mount, alloy housing painted red, 10K Ohm end of line resistor, 1/2" or 3/4" entry, UL & CSA approved. Options: European approval, custom engraved labels, standard or custom paint colors. Consult factory for option pricing.
000121-XXX	Strobe, Class 1, Division 1, Groups C & D, NEMA 4X, Xenon type, 5 Joule, 24 Vdc, surface mount, alloy housing painted red, 10K Ohm end of line resistor, 1/2" or 3/4" entry, 60 flashes per minute, lens colors available are Yellow, Amber, Clear, Red, Green, & Blue, UL & CSA approved. Options: European approval, custom engraved labels, other standard or custom paint colors, lens guard, custom flash rate. Consult factory for option pricing.
000121-XXX	Strobe, Class 1, Division 1, Groups C & D, NEMA 4X, Xenon type, 21 Joule, 24 Vdc, surface mount, alloy housing painted red, 10K Ohm end of line resistor, 1/2" or 3/4" entry, 60 flashes per minute, lens colors available are Yellow, Amber, Clear, Red, Green, & Blue, UL & CSA approved.

NOTE: Consult factory for pricing information covering specific horn or strobe supplier offerings.

Horns and Strobes for Class 1 Division 2 Areas

Part Number	Description
000122-XXX	Horn, Class 1, Division 2, Groups C and D, NEMA 4X, 27 user selectable tones, up to 105 dBA @10 ft., integral volume control, various voltages, surface mount, GRP housing painted red, 10K Ohm end of line resistor, 1/2" or 3/4" entry, UL & CSA approved. Options: European approval, custom engraved labels, standard or custom paint colors. Consult factory for option pricing.
000121-XXX	Strobe, Class 1, Division 2, Groups C&D, NEMA 4X, Xenon type, 5 Joule, 24 Vdc, surface mount, GRP housing painted red, 10K Ohm end of line resistor, 1/2" or 3/4" entry, 60 flashes per minute, lens colors available are Yellow, Amber, Clear, Red, Green, & Blue, UL & CSA approved. Options: European approval, custom engraved labels, other standard or custom paint colors, lens guard, custom flash rate. Consult factory for option pricing.
000121-XXX	Strobe, Class 1, Division 2, Groups C&D, NEMA 4X, Xenon type, 21 Joule, 24 Vdc, surface mount, GRP housing painted red, 10K Ohm end of line resistor, 1/2" or 3/4" entry, 60 flashes per minute, lens colors available are Yellow, Amber, Clear, Red, Green, and Blue, UL & CSA approved. Options: European approval, custom engraved labels, other standard or custom paint colors, lens guard, custom flash rate. Consult factory for option pricing.

Horns and Strobes for Nonhazardous Areas

Part Number	Description
000122-XXX	Horn, NEMA 4X, 28 user selectable tones, up to 100 dBA @10 ft., integral volume control, various voltages, surface mount, UL & CE approved.
000121-XXX	Strobe, NEMA 4X, Xenon type, 2.2 Joule, surface mount, 24 Vdc, lens colors available are Amber, Clear, Red, Green, and Blue, UL, ULC & CSA approved
000122-XXX	Horn/Strobe, outdoor general purpose, 8 tones, various voltages, 94 to 101 dB @10 ft, clear lens labeled "FIRE", surface mount, UL approved

NOTE: The devices listed above are only a few examples of those available. Many other devices are available from several manufacturers with approvals for nearly any region of the world. Detector Electronics can provide other devices to meet specific customer requirements.

EQ2400NE Series Network Extender



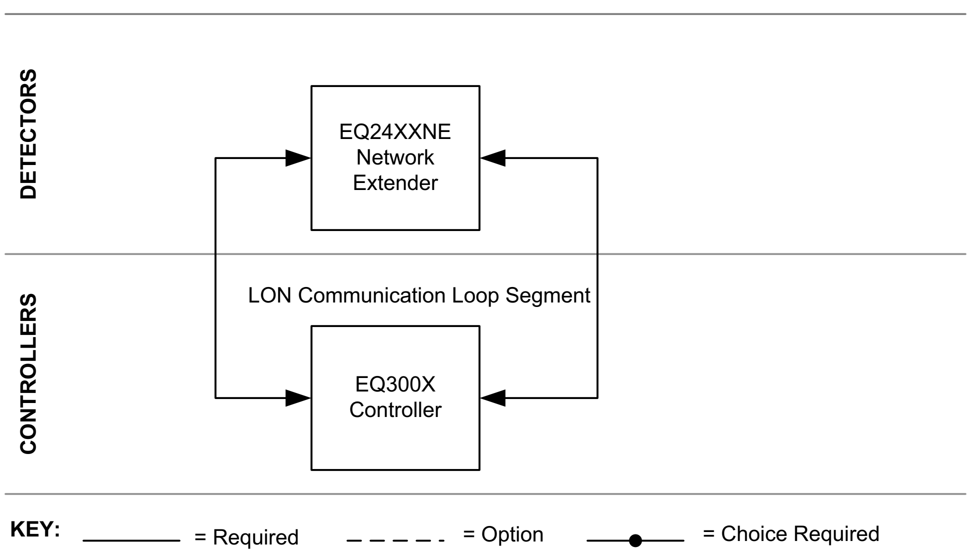
EQ2400NE Series Network Extender (Spec Sheet: 90-1132) expands the capabilities of the Eagle Quantum Premier® system by allowing additional nodes as well as additional wiring to be added to the LON communication loop. Without a network extender, the communication network is limited to 60 nodes on a 2,000 meter loop. Each network extender increases the capacity of the loop by 40 nodes and an additional 2,000 meters of wiring. The maximum system size is 246 field nodes and 10,000 meters of wiring. To ensure optimum performance, it is important to distribute the network extenders along the loop so that no more than 40 nodes or 2,000 meters of wiring are on either side of a network extender.

Network extender circuitry supports communication in both directions. If a network fault should occur, uninterrupted communication can continue in the opposite direction.

- Increases network capacity by 40 nodes per unit (system maximum = 246)
- Each extender increases wiring length by 2,000 meters
- Visual indication of network traffic
- Up to 6 extenders can be added per system

Network Extender

Model	Part Number	Material	Thread	Ports	FM/CSA/ ATEX/CE	Ship Weight
EQ2453NE	006941-009	AL	3/4 NPT	5	X	6 lb (2.7 kg)
EQ2408NE	006941-007	AL	3/4 NPT	6	X	6 lb (2.7 kg)
EQ2407NE	006941-003	AL	M25/M20	5	X	6 lb (2.7 kg)
EQ2409NE	006941-008	AL	M25/M20	6	X	6 lb (2.7 kg)
EQ2463NE	006941-010	SS	3/4 NPT	5	X	10 lb (4.5 kg)
EQ2417NE	006941-006	SS	M25/M20	5	X	10 lb (4.5 kg)
EQ24EMNE	000506-011	Electronic Module Panel Mount				3 lb (1.4 kg)



NOTES

EAGLE QUANTUM

Eagle Quantum System

Local Control Unit (LCU)

Model	Part Number	FM	CSA	CE	CEN	Ship Weight
EQ2100LCU	006814-001	X	X	X	X	20 lb (9.0 kg)

Local Control Unit (LCU) Replacement Parts

Model	Part Number	Description	Ship Weight
EQ2100MR	006668-001	CAGE "LCU" STD, GEN. ASSY.	12.2 lb (5.5 kg)
EQ2100LC	006566-001	LOGIC CONTROLLER, GEN ASSY.	2.6 lb (1.2 kg)
EQ2100CG	006570-001	QUANTUM GATEWAY, GEN. ASSY.	2.6 lb (1.2 kg)
EQ2100IM	006558-001	LON ISOLATOR, GEN ASSY.	2.6 lb (1.2 kg)
	000505-016	LOGIC CONTROLLER BYPASS KIT	1.1 lb (0.5 kg)

UV and UV/IR Standard Flame Detection System Enclosures

Part Number	Description	LIOU	Number of Detectors Supported	Number of LIOU Outputs
000830-001	EAGLE QUANTUM SYSTEM ENCLOSURE 24" X 24" X 12"		1 to 24	X
000830-002	EAGLE QUANTUM SYSTEM ENCLOSURE 24" X 24" X 12"	X	1 to 8	1 to 8
000830-003	EAGLE QUANTUM SYSTEM ENCLOSURE 24" X 24" X 12"	X	9 to 16	9 to 16
000830-004	EAGLE QUANTUM SYSTEM ENCLOSURE 24" X 24" X 12"	X	17 to 24	17 to 24

Local Output Unit (LIOU)

Model	Part Number	Description	Ship Weight
EQ2100LIOU	006641-001	LOCAL INPUT/OUTPUT UNIT ASSY. (with enclosure)	40 lb (18.2 kg)
EQ2100LIOU	006641-002	LOCAL INPUT/OUTPUT UNIT ASSY. (without enclosure)	20 lb (9.0 kg)

NOTE: Cards must be ordered separately (see table below).

Cards for Local Output Unit (LIOU) Assembly

Model	Part Number	Description	Ship Weight
74-200003-001	102842-001	SIGNAL AUDIBLE CARD–FENWALNET	5 lb (2.3 kg)
74-200001-001	102843-001	RELEASING CARD–FENWALNET	5 lb (2.3 kg)
74-200004-001	102844-001	RELAY CARD–FENWALNET	5 lb (2.3 kg)

NOTES

EAGLE LOGIC SYSTEM

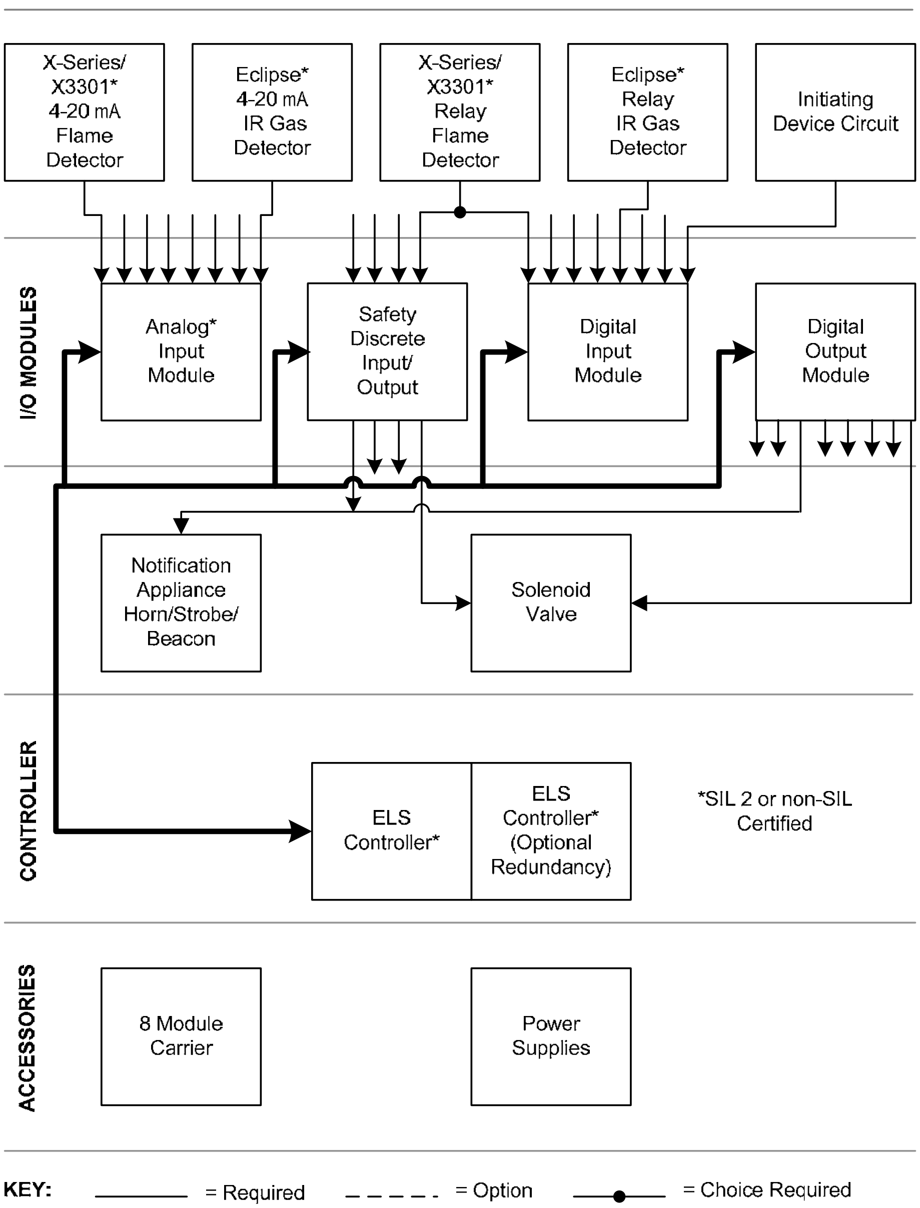
Eagle Logic Solver (ELS)



The **Eagle Logic Solver** is a point-to-point system that is designed to compliment the EQP system offering. The system has SIL 2 and non-SIL approved modules to allow for a flexible design depending on the certification requirements.

Special features:

- Integrated field bus support (HART)
- Open bus interface Modbus (Serial and Ethernet)
- Supports controller redundancy
- Compliant software package (IEC 61131-3)
- Seamless integration with HMI's
- Integrated with Detector Flame and Gas devices
- SIL or non-SIL certified devices available



ELS System

Controllers, Controller Carriers, and Accessories

Model	Part Number	Description
ELS4521-LC-DT	000650-100	ELS Controller
ELS4410-NS-PS	000650-101	ELS Node services power supply monitor
ELS4750-CA-NS	000650-102	ELS Controller Carrier, simplex or redundant, power monitoring
ELS4521-EB-DT	000650-103	ELS Ethernet BIM

Configuration, Workbench, and other Software

Model	Part Number	Description
ELS4459-L2-DT	000650-110	ELS Logic Configurator (concurrent licenses after initial)
ELS4459-LC-DT	000650-111	ELS Logic Configurator
ELS4588-SW-FT	000650-112	Fault Tolerant Ethernet Application for Redundant Host Computers

I/O Modules

Model	Part Number	Description
ELS4101-HI-TX	000650-001	8-channel AI, 4-20 mA with HART for 2-wire Tp
ELS4110-DI-DC	000650-002	8-channel DI, 24 Vdc non-isolated, module powered
ELS4115-DO-DC	000650-003	8-channel DO, 2-60 Vdc non-isolated, module powered
ELS4116-DO-AC	000650-004	8-channel DO, 20-250 Vac non-isolated, module powered
ELS4125-DI-DC	000650-005	32-channel DI, switch/proximity detector
ELS4819-SH-DC	000650-009	Addressable Smoke and Heat Module

Terminal Blocks

Model	Part Number	Description
ELS4602-FT-ST	000650-050	Field terminal, standard (DI/DO/AI)
ELS4603-FT-FU	000650-051	Field terminal, non-incendive, fused (Div 2) (DI/AI)
ELS4611-FT-FU	000650-056	Field terminal, non-arcing, fused (Div 2) (DO)
ELS4615-FT-4W	000650-052	Field terminal, 4 wire (current sinking) (AI)
ELS4617-FT-NI	000650-053	Field terminal, non-incendive, for 32 ch DI

Non-IS Carriers

Model	Part Number	Description
ELS4709-CA-08	000650-060	ELS Carrier, 8 module with earth bar, 64-address system

Non-IS Extenders

Model	Part Number	Description
ELS4041-CC-35	000650-070	Carrier extension cable, 0.35m
ELS4042-CC-85	000650-071	Carrier extension cable, 0.85m
ELS4043-CC-12	000650-072	Carrier extension cable, 1.2m
ELS4020-CE-RH	000650-073	Carrier extender, right hand
ELS4021-CE-LH	000650-074	Carrier extender, left hand

Power Supplies, P/S Carriers, and Acc's

Model	Part Number	Description
ELS4913-PS-AC	000650-130	C1D2 5A 12 & 24 Vdc out - AC input P/S - Full temp range
ELS4914-PS-AC	000650-131	C1D2 10A 24 Vdc out - AC input P/S - Full temp range
ELS4413-FK-DN	000650-132	8913/14 Power Supply DIN Rail Mounting Kit
ELS4414-FK-SU	000650-133	8913/14 Power Supply Surface Mounting Kit
ELS4910-PS-DC	000650-134	C1D2 5A 12 Vdc out - 24 Vdc Input
ELS4717-CA-PS	000650-135	Carrier for 4910-PS-DC only

Accessories

Model	Part Number	Description
ELS4401-FU-2A	000650-120	Replacement fuses, 2A, pack of 10

TüV SIL 2 Certified Devices

Model	Part Number	Description
ELS4851-LC-DT	000650-104	ELS Safety Controller
ELS4841-LC-DT	000650-113	Safety Logic Workbench
ELS4810-AI-HX	000650-006	8-channel Safety AI, 4-20 mA with HART
ELS4811-IO-DC	000650-007	8-channel Safety Discrete Input/Output
ELS4751-CA-NS	000650-105	ELS Safety Controller carrier, simplex or redundant, power monitoring

SIL 2 CERTIFIED SYSTEM

SIL 2 Certified Fire and Gas Detection System

Det-Tronics has the capability to offer a third-party approved SIL 2 rated fire and gas detection system fully certified to IEC61508.



EQ3001 Eagle Quantum Premier Controllers share a common hardware and software platform with standard EQP Controllers. The SIL rated version of the Controller conducts additional diagnostic checks and annunciates additional fault conditions. Using Det-Tronics EQP Safety Controllers in redundant mode will increase their availability, but will have no effect on their ability to perform a safety-related function. The redundant controller system is certified for use as part of a SIL 2 system.



EQ3730EDIO Enhanced Discrete Input/Output Module (EDIO) module provides eight channels of configurable digital input or digital output devices. The EDIO Module is specially designed and certified to meet the requirements of IEC 61508.



ELS Safety System combines simplex or redundant controller processing with the required I/O modules to offer a fully functional SIL 2 fire and gas solution certified by TüV. The system supports the transfers of safety information between controllers using peer-to-peer communication and supports HART passthrough.



Multi-spectrum Infrared Flame Detector X3301 establishes a new benchmark in multiple-fuel fire detection performance and false alarm rejection. The detector utilizes advanced signal processing algorithms supported by an embedded 32-bit microprocessor to provide continuous protection in the presence of false alarm sources and environments with infrared radiation present. SIL 2 certified by TüV to IEC-61508 for a 4 to 20 mA and relay output.



PointWatch® Eclipse Infrared Gas Detector. Point infrared gas detector providing detection of flammable hydrocarbon gases in the lower explosion limit (LFL) range. SIL 2 certified by TüV to IEC-61508 for a 4 to 20 mA and relay output.

SIL 2 Certified EQP EQ3001 Controller

Model	Part Number	Mounting	ControlNet	Serial Expansion Board	SIL/FM/CSA/ ATEX/CE	Ship Weight
EQ3001PNNT	007609-072	Panel			X	5.0 lb (2.3 kg)
EQ3001DNNT	007609-073	DIN			X	5.0 lb (2.3 kg)
EQ3001PCNT	007609-075	Panel	X		X	5.0 lb (2.3 kg)
EQ3001DCNT	007609-076	DIN	X		X	5.0 lb (2.3 kg)
EQ3001PNST	007609-077	Panel		X	X	5.0 lb (2.3 kg)
EQ3001DNST	007609-078	DIN		X	X	5.0 lb (2.3 kg)
EQ3001PCST	007609-079	Panel	X	X	X	5.0 lb (2.3 kg)
EQ3001DCST	007609-080	DIN	X	X	X	5.0 lb (2.3 kg)

SIL 2 Certified EQP EQ3730 8 Channel EDIO Module

Model	Part Number	Material	SIL/FM/CSA/ ATEX/CE	Ship Weight
EQ3730PT	009174-012	AL	X	1.0 lb (0.45 kg)
EQ3730DT	009174-013	AL	X	2.0 lb (0.90 kg)

SIL 2 Certified ELS Fire and Gas Detection System

Model	Part Number	Description
ELS4851-LC-DT	000650-104	ELS Safety Controller
ELS4841-LC-DT	000650-113	Safety Logic Workbench
ELS4810-HI-TX	000650-006	8-channel Safety AI, 4-20 mA with HART
ELS4811-IO-DC	000650-007	8-channel Safety Discrete Input/Output

SIL 2 Certified X3301 Flame Detectors

Model	Part Number *	Material	Threads	Output	EEx de	EEx d	SIL/FM/CSA/ ATEX/CE	Ship Weight
X3301A4N13T1	008258-XXX	AL	3/4 NPT	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301A4M13T1	008259-XXX	AL	25 mm	Relay/4-20 mA	X		X	6 lb (2.75 kg)
X3301S4N13T1	008260-XXX	316 SS	3/4 NPT	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301S4M13T1	008261-XXX	316 SS	25 mm	Relay/4-20 mA	X		X	10 lb (4.54 kg)
X3301A4N13T2	008270-XXX	AL	3/4 NPT	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301A4M13T2	008271-XXX	AL	25 mm	Relay/4-20 mA		X	X	6 lb (2.75 kg)
X3301S4N13T2	008272-XXX	316 SS	3/4 NPT	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301S4M13T2	008273-XXX	316 SS	25 mm	Relay/4-20 mA		X	X	10 lb (4.54 kg)
X3301A4N14T1	008262-001	AL	3/4 NPT	EQP	X		X	6 lb (2.75 kg)
X3301A4M14T1	008263-001	AL	M25	EQP	X		X	6 lb (2.75 kg)
X3301S4N14T1	008264-001	316 SS	3/4 NPT	EQP	X		X	10 lb (4.54 kg)
X3301S4M14T1	008265-001	316 SS	M25	EQP	X		X	10 lb (4.54 kg)
X3301A4N14T2	008274-001	AL	3/4 NPT	EQP		X	X	6 lb (2.75 kg)
X3301A4M14T2	008275-001	AL	M25	EQP		X	X	6 lb (2.75 kg)
X3301S4N14T2	008276-001	316 SS	3/4 NPT	EQP		X	X	10 lb (4.54 kg)
X3301S4M14T2	008277-001	316 SS	M25	EQP		X	X	10 lb (4.54 kg)

*The last 3 digits of the part number identify the software configuration. Please see the flame section to choose the correct option.

SIL 2 Certified PointWatch® IR Gas Detector

Model	Part number	Entry thread type	Output	Relays	Weather protection	Approvals	Ship Weight
PIRECLA1A1T1	007168-201	3/4 NPT	4-20 mA	No	w/ hydrophobic	SIL/FM/CSA/ ATEX/CE	11.5 lb (5.2 kg)
PIRECLA1A2T1	007168-203	3/4 NPT	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B1T2	007168-205	3/4 NPT	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA1B2T2	007168-207	3/4 NPT	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A1T1	007168-202	M25	4-20 mA	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1A2T1	007168-204	M25	4-20 mA	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B1T2	007168-206	M25	4-20 mA	Yes	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB1B2T2	007168-227	M25	4-20 mA	Yes	no hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A1T1	007168-212	3/4 NPT	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLA4A2T1	007168-214	3/4 NPT	EQP	No	no hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A1T1	007168-213	M25	EQP	No	w/ hydrophobic		11.5 lb (5.2 kg)
PIRECLB4A2T1	007168-215	M25	EQP	No	no hydrophobic		11.5 lb (5.2 kg)

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Availability and specifications are subject to change without notice.

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Abbreviations

AGC/TE	Automatic Gain Control/Thermoelectric Cooler
AIM	analog input module
AL	Aluminum
amp(s)	ampere/amperes
Arc	an algorithm that prevents false alarms from transient UV sources
ARM	Agent Release Module
assy	assembly
Aux	Auxiliary
bd(s)	boards
cal	calibration
CE	*'Conformité Européenne'*, French for 'European Conformity'
COMM	Communication
config	configuration
COV	Cone of Vision
cps	counts per second
Ctrlr	controller
CSA	Canadian Standards Association Certification
dB	decibels
dBA	decibels adjusted
DCIO	Direct Current Input/Output
DCU	Digital Communication Unit
DDL	Device Description Language
DNV	Det Norske Veritas (Norway) approved
e	Increased Safety
ea	each
EC	Electrochemical
EDIO	Enhanced Discrete Input/Output
EMC	electromagnetic compatibility
EMI	electromagnetic interference
Encl	enclosure
EOL	End of Line
EQ	Eagle Quantum
EQP	Eagle Quantum Premier
EVF	External Voltage Fluctuation
FOV	field of view
FM	Factory Mutual Approvals
ft	foot or feet
HART	Highway Addressable Remote Transducer
Ht	height
IAO	Individual Alarm Output
ib	Intrinsic Safety (Class 1, Zone 1)
IEC	International Electrotechnical Commission
ID	inside diameter
IDC	Initiating Device Circuits
IDCGF	Initiating Device Circuits Ground Fault
Ind	independent
IR	infrared
ISA	The Instrumentation, Systems, and Automation Society
J-box	Junction box
kg	kilogram
lb	pound
LED	Light Emitting Diode
LEL	Lower Explosive Limit
LFL	Lower Flammable Limit
LON	Local Operating Network

m	meter(s)
mA	milliampere(s)
MOS	Metal-Oxide Semiconductor
mm	millimeter(s)
mt	mount
N/C	No Charge
NE	Network Extender
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
No.	number
N.C.	Normally Closed contacts
N.O.	Normally Open contacts
NT	Nanotechnology
oi	Optical Integrity
PB	pushbutton
pkg	package
PM	Power Monitor
PLC	Programmable Logic Controller
ppb	parts per billion
ppm	parts per million
PSM	Power Supply Monitor
OD	outside diameter
OEM	Original Equipment Manufacturer
p/n	part number
PIRTB	Point-type Infrared Termination Box
pos	positive
R	Russian approved
Repl	replacement
RFI	radio frequency interference
RH	relative humidity
rly(s)	relay/relays
RM	Relay Module
RTC	real time clock
RUS	Russian approved
SAM	Signal Audible Module
sec	seconds
sep	separation
SIL	safety integrity level
sgl	single
SS	Stainless Steel
STAR	Selectable Transient Arc Rejection
surv	surveillance
TAR	Transient Arc Rejection
TDSA	Time Domain Signal Analysis
temp	temperature
Ω	ohm
UCR	Upper Count Rate
UEL	Upper Explosive Limit
UL	Underwriter Laboratories
ULC	Underwriter Laboratories of Canada Listed
UV	Ultraviolet
UVIR	Ultraviolet/Infrared
Vac	Volts alternating current
Vdc	Volts direct current
VDS	Verband deer Sachversicherer (German approval)
w/	with
w/o	without

REFERENCES

Product Life Cycle Definitions

Active: An active product is one that is being actively promoted, with new versions being released. These products are manufactured on a regular basis and are promoted as the latest technology from Det-Tronics.

Retired Product Status (RPS): An RPS product will continue to be manufactured for a *maximum* of five years after being given this status. No further development work will be done, or new certifications pursued, on RPS products.

Repair Only Status (ROS): An ROS product will no longer be manufactured. An ROS product will remain on this status for a *maximum* of three years.

Obsolete (OBS): An OBS product will no longer be manufactured or repaired.

Ordering Information

Ordering Information

If unit required is not listed, it may be possible to order a special model that better fits the requirements. The manufacturer reserves the right to offer a particular model. Consult factory for pricing and availability.

Detector Electronics Corporation

6901 West 110th Street

Minneapolis, Minnesota 55438 USA

The manufacturer reserves the right to make substitutions or changes to products without notice.

All prices are in U.S. Dollars. Prices are F.O.B. factory, Minneapolis, Minnesota, USA. Prices shown contain no provision for V.A.T. National, State or Local taxes or customs duty that may apply. Prices shown do not contain provision for special export crating. Prices are subject to change without notice. Prices are effective for shipments after September 1, 2008.

Terms are Confirmed Letter of Credit with order unless open account terms are established in advance. Invoices to customers with approved credit are payable

30 days net (Domestic) from date of invoice.

35 days net (International) from date of invoice.

A minimum of 30% restocking charge will be applied to all returns. Actual credit will depend on age and condition. Prior to returning products, contact Detector Electronics Corporation to obtain a Return Material Identification (RMI) number.

Expedited Shipments

Any order received (telephone or wire) requesting same day shipment will be treated as an “expedited shipment.” There will be a minimum charge for “expedited shipments” of $350 and an additional 10% expediting charge for all counter-to-counter rush orders. Detector Electronics cannot guarantee same day shipment for orders placed after 3:00 PM EST.

MINIMUM ORDER: $150.00

REFERENCES

General Terms and Conditions for Sales Contract

All sales by Detector Electronics Corporation (hereinafter called “Detector”) of equipment offered and sold by it shall be subject to the following General Terms and Conditions which shall be deemed incorporated into all orders and offers to purchase submitted to Detector for acceptance and into all of its acceptances and contracts for sale.

1. EXCLUSION OF WARRANTIES. DETECTOR MAKES NO WARRANTY THAT THE EQUIPMENT SOLD HEREUNDER SHALL BE MERCHANTABLE OR THAT SUCH EQUIPMENT SHALL BE FIT FOR ANY PARTICULAR PURPOSE. MOREOVER, DETECTOR MAKES NO EXPRESS OR IMPLIED WARRANTIES EXCEPT FOR THE LIMITED WARRANTY OUTLINED IN PARAGRAPH 2. IN ADDITION, NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, MADE BY ANY DISTRIBUTOR, SALES REPRESENTATIVE, OR FIELD AGENT OF DETECTOR WHICH IS NOT SPECIFICALLY SET FORTH HEREIN SHALL BE BINDING ON DETECTOR.

2. WARRANTY. Detector makes the following limited warranty: Detector warrants to Buyer that the equipment represented by this contract shall be free from defects in material and workmanship upon delivery. If such equipment is not as warranted and if (a) equipment not installed by Detector is received, transportation prepaid, at Detector (i) within eighteen months after date of manufacture, or (ii) within twelve months after date of installation, whichever occurs first as evidenced by a certification by the installer, or (b) equipment installed by Detector, or under the direct supervision of Detector is found by Detector’s inspection to be defective in material and workmanship upon delivery within twelve months after date of installation, Detector’s liability and Buyer’s exclusive remedy against Detector is expressly limited, at Detector’s option, to the repair or replacement of the defective good(s), with Detector returning the repaired or replaced good(s) to the Buyer F.O.B. destination at the lowest cost. Any part, item or equipment repaired or replaced and returned to Buyer shall be warranted by Detector for the remainder of the original warranty period. Extended warranty periods are offered for specific detectors and are shown in the notes below.

NOTE #1: Excluding oxygen sensors, Detector warrants that all gas sensors shall be free from defects in material and workmanship upon delivery. This sensor warranty shall be on a two (2) year “rolling basis;” i.e., upon Detector’s receipt of a defective gas sensor within/during the two (2) year warranty period, Detector shall provide a new gas sensor, with the remainder of the two (2) year warranty in force. The cost of repair or replacement due to all other defects, including, but not limited to those which are the result of abuse or misuse of the product parts or for a defect which arises out of a design or specification provided by Buyer, shall be at the expense of Buyer.

NOTE #2: The PointWatch PIR9400 and PointWatch Eclipse PIRECL Point Infrared Hydrocarbon Detector warranty for parts and labor shall be five (5) years from the date of manufacture.

NOTE #3: The X3301 and X3302 Multispectrum Infrared Flame Detector warranty for parts and labor shall be five (5) years from the date of manufacture.

NOTE #4: The X2200 Ultraviolet Flame Detector, X5200 UV/IR Flame Detector, and X9800 Single Frequency Infrared Flame Detector warranty for parts and labor shall be three (3) years from the date of manufacture.

NOTE #5: The OPECL Open Path Eclipse Gas Detector warranty for parts and labor shall be two (2) years from the date of manufacture.

Repair or replacement of the detector equipment as provided in this warranty is the Buyer’s exclusive remedy. This exclusive remedy will not be deemed to have failed of its essential purpose so long as Detector is willing and able to repair or replace the defective product in the prescribed manner. If Detector fails to provide Buyer with free repair or replacement as aforesaid, Detector’s entire liability shall not exceed the lower of the repair value, the replacement value or the amount paid by Buyer to Detector for the equipment. Detector will not have any liability of any kind under this limited product warranty unless the Buyer notifies Detector within one year after the cause of action has accrued.

This warranty applies only to the equipment delivered which after shipment from Detector’s factory have not been altered, changed or repaired in any manner. The products of other manufacturers are covered only by such warranties as made by these original manufacturers even though such items may have been included as components.

3. LIMITATIONS ON WARRANTY. IN NO EVENT SHALL DETECTOR OR ITS SUBCONTRACTORS OR VENDORS BE LIABLE IN CONTRACT, TORT, STRICT LIABILITY, WARRANTY, OR OTHERWISE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL LOSS OR DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO DAMAGE TO OR LOSS OF PROPERTY OR EQUIPMENT, LOSS OF ANTICIPATED PROFITS OR REVENUE, CLAIMS OF CUSTOMERS, OR HARM TO GOODWILL OR BUSINESS REPUTATION, LOSS OF USE OF SYSTEM, NON-OPERATION OR INCREASED EXPENSE OF OPERATION OF OTHER EQUIPMENT DIRECTLY OR INDIRECTLY ARISING FROM THE SALE, HANDLING OR USE OF THE EQUIPMENT, OR FROM ANY OTHER CAUSE RELATING THERETO AND DETECTOR’S LIABILITY HEREUNDER. The remedies set forth above and the obligations and liabilities thereunder are exclusive and in lieu of all other remedies, warranties, guarantees or liabilities expressed or implied, arising by law or otherwise including without limitation, any obligations of Detector with respect to merchantability and fitness for a particular

purpose/use or whether or not occasioned by Detector's negligence. Detector shall not be liable to the Buyer for any claims, demands, injuries, damages, actions or causes of action whatsoever based on negligence or strict liability.

If, after inspection of the returned equipment, Detector determines that the defect is a result of damage, misuse, mishandling, installation, abnormal conditions of storage or operation, unauthorized repair or modification, or due to the Buyer's failure to install, maintain or operate the equipment in compliance with the written instructions, all expenses incurred by Detector in connection with the replacement or repair of the equipment shall be for the account of the Buyer. Any equipment returned to Detector for replacement shall become the property of Detector.

The liability of Detector, its subcontractors or vendors with respect to any contract, or anything done in connection therewith or from the Field Service; Technical Assistance, manufacture, sale delivery, resale, installation, repair, replacement or use of any service or equipment covered by or furnished under this Contract, whether in contract, in tort, in warranty, in strict liability, or otherwise, shall not exceed the original purchase price paid on the contract. If the Contract provides for the furnishing of more than one unit of equipment or materials, the limitation prescribed hereinabove shall be applied to each individual unit with respect to which such breach has occurred and "contract price" shall be deemed to mean the unit price specified in the Contract, or if none is specified, a proportionate part of the total price stipulated for all such units.

The validity, performance and interpretation of the limited warranty shall be governed by the internal laws (and not the laws of conflicts) of the State of Minnesota. All disputes arising in connection with the limited warranty shall be resolved, if not sooner settled, by a court of competent jurisdiction located in Hennepin County, Minnesota, USA.

4. ACCEPTANCE STATES THE ENTIRE CONTRACT. The acknowledgment by Detector of the Buyer's order or offer to purchase is an acceptance of the Buyer's order and intended to embody the complete and exclusive contract of sale in relation to the subject matter hereof, and no understandings or agreements, verbal or otherwise, in relation thereto except as herein expressly set forth or incorporated herein by reference shall be binding on either party.

The acknowledgment by Detector of the Buyer's order(s) is accepted on the condition that the terms and conditions set forth herein shall apply and shall constitute complete agreement between the parties. Any provisions or conditions of the Buyer's order forms or any verbal or other understandings or agreements which are in any way in conflict with or in addition to these terms and conditions shall not be binding on Detector and shall not be applicable, unless expressly agreed to in writing by Detector herewith or hereafter. Buyer shall be deemed to have assented to the exclusive terms and conditions hereof unless objection by the Buyer hereto in writing has been received by Detector at its office in Minneapolis, Minnesota within ten (10) working days after receipt of the acknowledgment by the Buyer, or if a shipment has been requested in less than said ten (10) working days, then prior to such date shipment, and in the event of such objection and at Detector's option, the acknowledgment shall thereupon be revoked and the sale contract terminated.

5. DELIVERY. Delivery of equipment not agreed on the face hereof to be installed by or under supervision of Detector shall be F.O.B. at Detector's factory, warehouse or office selected by Detector. Shipping dates are approximate and are based upon current and anticipated manufacturing capabilities and upon receipt of all necessary information from the Buyer. Detector reserves the right to make delivery in installments and the contract shall be severable as to each such installment. Delay in delivery or other default in any installment shall not relieve the Buyer of its obligation to accept and pay for remaining deliveries. If delivery of goods is delayed due to default in payment of the purchase price or to delay in receipt of shipping instructions, documents for payment, required inspection, export license or authorization or other cause for which Detector is not responsible, charges for demurrage and storage shall be paid by the Buyer. All claims for a delay in delivery shall be deemed waived unless presented to Detector in writing thirty (30) days after the delivery of each shipment.

Unless otherwise indicated on the front side of the invoice, all shipping and insurance charges, any duty and all taxes related to the Buyer's order shall be paid by the Buyer. Claims for damages in transit must be asserted against the Carrier. Within (7) days after receipt of shipment, the Buyer must report to Detector any shortage or damage not due to the carrier, otherwise claims for such shortage or damage will be deemed waived.

6. FORCE MAJEURE. Fulfillment of this order is contingent upon the availability of materials. Detector shall not be liable for any delays in delivery, or for non-delivery or nonperformance, in whole or in part, caused by the occurrence of any contingency beyond the control of either Detector or suppliers of Detector, including but not limited to one or more of the following causes: fires, destruction of plant; strike; lockout; dispute with workmen; epidemic; flood; accident; delay in transportation; war (whether declared or undeclared); insurrection; riot; blockage; embargo; acts, demands or requirements of the United States, or the country in which or through which delivery is to be made or any state or territory thereof, or of any governmental subdivision of any thereof; restraining orders for decrees of any court or judge; or any other cause whatsoever, whether similar or dissimilar to those herein before enumerated. The existence of any such cause or causes of delay shall extend the time of performance by the time or times measured by any such cause or causes of delay. If delivery is not completed within sixty (60) days after the date stipulated in the acceptance of the order due to any said causes, either Detector or the Buyer may cancel this contract on ten (10) working days notice to the other. If any contingency occurs, Detector reserves the right to allocate production and deliveries among its customers.

REFERENCES

7. ACCEPTANCE OF ORDERS. Orders and offers to purchase received by or on behalf of Detector are subject to acceptance only at its office in Minneapolis, Minnesota. No Detector distributor, sales representative, or field agent has authority to accept orders or make contracts of sale on behalf of Detector.

8. CANCELLATION, COUNTERMAND AND RETURN OF GOODS. Orders accepted by Detector cannot be cancelled or countermanded, or shipments deferred or equipment returned except with the prior written consent from Detector's office in Minneapolis, Minnesota, and upon terms that will indemnify Detector against all losses resulting therefrom, including the profit on any part of the order that is cancelled. When Detector authorizes the return of equipment, the Buyer shall prepay the shipping charges on such returned equipment unless otherwise expressly stated by Detector in its written return authorization.

9. PRICES, TAXES AND TRANSPORTATION CHARGES. The sales price stipulated in this contract is exclusive of all customs duties, charges or surcharges, consular fees, sale, use, excise, turnover, occupational or transportation taxes, or any other taxes imposed by any country or political subdivision thereof. If any such tax or charge is imposed by law on the Buyer on account of this sale and Detector is obligated to pay such tax or charge, the amount of such disbursement shall be reimbursed to Detector by the Buyer forthwith in addition to the purchase price. Freight and insurance quotations are merely estimates based upon currently prevailing rates and, because Detector has no control over such quotations, any variations in the actual rates at the time of shipment shall be for the Buyer's account. Detector may add a charge for export packing to the price, and Detector reserves the right to impose an additional reasonable charge for packing and/or packaging to comply with Buyer's specifications or instructions.

10. TERMS AND PAYMENT; INSTALLATION CHARGES, FINANCE CHARGES. Absent contrary provision on the face hereof and subject to approval and continuance of approval of credit by Detector, terms of payment are thirty days net from the date of invoice. In the case of equipment for destination outside the United States, terms of payment are by satisfactory confirmed irrevocable Letter of Credit or Sight Draft with documents attached as Detector may elect. All payments shall be in legal currency of the United States. Acceptance and endorsement by Detector of an instrument for less than the full amount which claims to be due shall not be deemed to be an admission of payment in full and any conditions to the contrary which are noted on such an instrument shall not be binding on Detector. Detector's prices prevailing at time of each shipment shall apply. Prices are subject to correction for error.

All costs of installation shall be done by Buyer. It is contemplated that any installation or supervision labor and services agreed on the face hereof to be performed by Detector are to be performed during regular working hours on regular working days. If for any reason the Buyer requests Detector to furnish any such labor or services outside of such regular working hours, any overtime or other additional expense occasioned thereby shall be billed to and paid by the Buyer as an extra.

A finance charge will be assessed on past due amounts at one and one half percent (1-1/2%) per month or the highest rate permitted by law whichever is lower.

11. TITLE AND RISK OF LOSS. Title and Risk of Loss shall pass to the Buyer upon delivery to the carrier, Buyer or Buyer's agent, unless specified otherwise. If, however, payment of the purchase price is not contemporaneous with, or does not precede delivery of the merchandise to the carrier or the Buyer, the Buyer agrees at Detector's request to execute, acknowledge and record appropriate financing statements so as to perfect a security interest in the products in favor of Detector, including, but not limited to, a UCC Form 1204 - Retail Installment Contract or the execution of a contract of conditional sale containing the provisions as Detector shall deem proper.

Loss or damage that occurs during shipping is the Buyer's responsibility, unless an Incoterm is mutually agreed to.

12. PATENTS. Buyer shall indemnify and hold Detector harmless from any claim of patent infringement if such patent infringement or claim involves machines produced by Detector at Buyer's direction or is based upon the use of the product in combination with other items where such infringement or claim thereof would not have occurred from the normal use for which the product was designed.

13. GENERAL PROVISIONS. Detector reserves the right to correct any stenographical or clerical errors in any of the writings issued by it. Except as otherwise set forth herein, the terms and conditions of sale and any description on the face of this acknowledgement constitute a complete and exclusive statement of the terms and conditions of the sale of the products by Detector to the Buyer. There are no other promises, conditions, understandings, representations or warranties. This Agreement may be modified only in a writing signed by Detector. No waiver of any right will be effective against Detector unless supported by consideration and expressly stated in the writing signed by Detector, and the failure of Detector to enforce any right will not be construed as a waiver of Detector's right to performance in the future. The Buyer may not assign any rights to, or delegate any performance owed under this Agreement without the written consent of Detector. Detector shall have the right to credit toward the payment of any monies that may become due Detector hereunder and any sums which may now or hereafter be owed to the Buyer by Detector. The validity and performance in all matters relating to the interpretation and effect of this Agreement and any amendment hereto shall be governed by and construed in accordance with the internal laws (and not the laws of conflicts) of the State of Minnesota. The Buyer shall pay Detector all fees, costs and expenses of Detector reasonably incurred in the enforcement of Detector's rights under or with respect to this Agreement, including, without limitation, reasonable attorneys' fees.

14. LICENSES AND PERMITS. Where Buyer is located in the United States, or has provided a duly executed power of attorney to its agent, Buyer shall be solely responsible for obtaining all export licenses or governmental permits necessary to export the products from the United States. At Buyer's request, Detector will endeavor to assist Buyer in obtaining such licenses and permits. Buyer shall be solely responsible for obtaining all import permits or other documents necessary for the importation of the products into another country or political subdivision thereof.

15. ULTIMATE DESTINATION. United States Law prohibits disposition of the equipment to certain countries. It is the responsibility of Buyer to inform Detector of the ultimate destination.

16. EXPORT. For all transactions subject to U.S. Export Control Laws, performance is contingent upon obtaining all required export authorizations.

17. NON-DISCLOSURE OF CONFIDENTIAL AND/OR PROPRIETARY TECHNICAL INFORMATION. The Buyer shall not disclose any technical/proprietary information furnished by Detector or acquired by Buyer or by virtue of or as a result of the implementation of this order to any person, firm or body or corporate authority and shall make all endeavors to ensure such technical/proprietary information is kept CONFIDENTIAL. Title to such technical/proprietary information imparted/supplied by Detector to Buyer shall at all times remain the absolute property of Detector.

18. SOFTWARE LICENSE. All software programs which are embodied in a human readable media or machine readable media and which include, but are not limited to, programs having a series of instructions, statements and data, and are related materials furnished by Detector, are trade secrets and proprietary to Detector. Detector provides such programs under a non-transferable and non-exclusive license to use them on the system for which Detector provided it; the Buyer may not assign, sublicense or otherwise transfer said license and programs or materials without the prior written consent of Detector. In the event information/data is exchanged between Detector and the Buyer, both parties mutually agree not to expose said programs to any claim, lien, conversion or any other encumbrance. Detector and the Buyer further agree to exercise due care and employ reasonable efforts to prevent disclosure of said technical information/data/program(s) unless it was or is:

[i] Known to the receiving party without restriction when received or thereafter developed independently by the receiving party, or
[ii] Obtained from a source other than the originating party, or
[iii] In the public domain when received or thereafter enters the public domain through no fault of the receiving party, or
[iv] Disclosed by the originating party to a third (3rd) party without restriction.

19 CHANGES. The Buyer may make changes, additions or deletions to specifications, drawings and other descriptions and conditions recited in the related document(s) upon written notice to Detector. If any such change(s), addition(s) or deletion(s) initiated by the Buyer affects the cost of manufacture or time of delivery, Detector shall give the Buyer written notice thereof within two (2) weeks from the date of Buyer's notice, and the Buyer shall give the instruction within a period of two (2) weeks from the date of Buyer's receipt of whether to accept Detector's proposed cost or delivery changes or to withdraw such change(s). In case of withdrawal of change(s), addition(s), deletion(s) during the above period(s), the original contract price and/or delivery shall remain unchanged.

20. Equal Employment OPPORTUNITY. Detector is committed to the maximum use of its employees' abilities and to complying with all applicable federal, state, and local laws and the principles of the Equal Employment Opportunity Act. The opportunities afforded throughout Detector are available equally to all. Applicants and employees are evaluated based on job qualifications without regard to race, color, religion, sex, sexual orientation, national origin, age, disability that does not prevent one from performing the essential functions of the job, veteran status, marital status, citizenship, or any other characteristic covered by federal, state, or local law.

Equal employment opportunity applies to all terms, conditions, and privileges of employment, including hiring, promotion, demotion, transfer, recruitment, termination, rates of pay, other forms of compensation, and selection for training. Every employee has access to Company-sponsored educational, training, and recreational activities.

21. Sales to the U. S. Government not exceeding $3,000 are made under FAR Part 13, Simplified Acquisitions.

REFERENCES

Document Charges

	Each
Approval Certificates	No Charge
Std. Certificate of Origin	No Charge
Std. Calibration Certificate	No Charge
Std. Certificate of Guarantee/Warranty	No Charge
Std. Certificate of Quality	No Charge
Std. Compliance/Conformance Certificate	No Charge
Std. Test and Inspection Certificate	No Charge
Certificate of Origin – Notarized	$ 35.00
Certificate of Origin – Chamberized	$180.00
Consularized Documents	Consult Factory
Custom Certificates	$130.00
(Require Part Number and/or Serial Numbers etc)	
Dossiers/Binders - Consisting of:	
Index	
Test Data	
Product Specification Sheet	$700.00 per set
Product Manual	
Product Catalog	
Any additions to above	Consult Factory
Drawings:	
Product Detail Drawing per product	$800.00
Spare Parts List per product	$800.00
Custom Drawings	$800.00
Any additions to above	$800.00
Product Manuals (comes with 1 Manual per box) - Additional	$2.00
Test Data	$150.00
Courier of Documents (Letter Envelope only):	
Domestic (within U.S.)	$ 45.00
International	$ 75.00

Note: The above prices are not discountable.

Miscellaneous Charges

	Each
Assembly of product with another product	$110.00 per set
Example: Transmitter and Sensor	
Calibration of Product other then factory setting	$150.00 per device
Paper Tags (P/N = PAPER TAGS)	$22.00
Stainless Steel Tags (P/N = STAINLESS TAGS)	$30.00
Attach Paper Tag to product (Paper Tag, String and Labor) (P/N = TAGS ATTACHED)	$40.00
Attach Stainless Steel Tag to product (S.S Tag, Wire and Labor) (P/N = TAGS ATTACHED)	$40.00

Note: The above prices are not discountable.

Repair Center and Rental Equipment Pricing

Available only for active models listed in this price schedule. Before returning equipment for repair, contact Detector Electronics Customer Service Department to obtain a Return Material Identification (RMI) number that will be reserved for your specific return order, and referenced in all documentation. Pack the return shipment carefully to avoid damage in transit. Place the RMI number, with your name and address as sender, plainly on the outside of the package.

CLASS 1

Repair Charge	***$450***
Test Fee	***$300***
MIR3	Gas Transmitter
R8471	Gas Controllers
U9500 Infiniti	Gas Transmitter
W8067	Test Lamp

CLASS 2

Repair Charge	***$800***
Test Fee	***$400***
004161-001	Electronic Module
30-2021/E	UV Detector
C7052C IR Module/DE5600-001	IR Module
C7052J IR Module	IR Module
DE2071	Electronics package for U7602B
DE4933-001	Electronic Module
DE4960-001	Electronic Module
DE5203	Electronics module for U7652B
DE5400-001	IR Detector
DE6000-001	IR Module
EQ2100PSM	Power Supply Monitor
EQ22xxDCU	EQP Component
EQ22xxDCUEX	EQP Component
EQ22xxIDC	EQP Component
EQ22xxIDCGF	Ground Fault Monitor
EQ24xxNE	EQP Component
EQ25xxARM	EQP Component
EQ25xxSAM	EQP Component
EQ3700 DCIO	EQP Component
EQ3710 AIM	EQP Component
EQ3720 RM	EQP Component
EQ3730 EDIO	EQP Component
EQ3740 IPM	EQP Component
MIR2	IR Gas Detector
OPECL (RX/TX modules only)	IR Detector
PIRECL	IR Detector
PointWatch Eclipse®	IR Gas Detector
R6007	Relay Module
U7652 IR Module	IR Module
X-Series Heads	Sensor Module

CLASS 3

Repair Charge	***$1550***
Test Fee	***$450***
30-3003/D	Smoke Detector
C7098B	IR Flame Detector
EA2000CG	Eagle 2000 Gateway
EQ2100CG	EQ Gateway
EQ2100IM	EQ LON Isolator
EQ2100LC	EQ Logic Controller
MIR1	Gas Detector/Transmitter
PIRDUCT	IR Detector
PIRVOL	IR Gas Detector
U7602	UV Flame Detector
U7652	UV/IR Flame Detector
U7698	IR Detector
U7698A to U7698D	IR Detector/Controller
X2200	UV Flame Detector
X3301	IR Flame Detector
X3302	Hydrogen Flame Detector
X5200	UV/IR Flame Detector
X9800	IR Flame Detector

CLASS 4

Repair Charge	***$2600***
Test Fee	***$550***
EQ2100	Eagle Quantum™
EQ3000/EQ3001	Eagle Quantum Premier™
OPECL (Complete Kit)	IR Gas Detector
R1425	Detonator
R7094	IR Controller
R7404	UV Controller
R7405	UV Controller
R7409B/C	UVIR Controller
R7484	IR Controller
R7494	UV/IR Controller
R7495	UVIR Controller

CLASS 5 (SPECIALS)

EQ21XX Power Supply	TBD
W867	(Battery Replacement) $2750

REFERENCES

CLASS 6 (TEST FEES)

UV Sensor Module	$300
Gas Sensor (all)	$300

RENTAL EQUIPMENT RATES

Class 1
$200 per day, including day of shipment

- 009348-001 K-Series Cal Meter
- 009351-001 W6300A1000 Inspector

Class 2
$250 per day, including day of shipment

- 009362-001 X-Series Laser & Aimer Kit
- 009347-001 W8066A1001 UV Tester
- 009354-001 400 Series Cal Meter
- 009355-001 OPECL Telescope
- 009361-001 W8067 Non-EX Lamp Kit

Class 3
$350 per day, including day of shipment

- 009344-001 HART Communicator 275
- 009345-001 HART Communicator 375
- 009360-001 W867 EX Lamp Kit

NOTE: The rental charges listed above include overnight shipping. They begin on the day the product ships from the factory, apply to both weekdays and weekends, and end the day before the product is received back at the factory. When returning the product, reference the RMI number (found on the rental product packing list) on the outside of the package and on any paperwork returned with the product. Ship the rental product prepaid via overnight delivery.

NON-REPAIRABLE ITEMS

006598-001 E-Mod	700 Transmitter	Air Dilution Kit	R6006 Relay Mod	U8700 Gas TX
006605-xxx U7602 E-Pkg	704 Transmitter	C7050 Flame Detector	R7300 Flame Controller	U8800 Gas TX
1000 Gas Controller	710 Gas Controller	C7052 Flame Detector	R7301 Flame Controller	U8810 Gas TX
2000 Gas Controller	740 Gas Controller	DE2020 Camera	R7302 Flame Controller	UV Module
30-2056B IR Detector	800 Transmitter	DE5500-001 E-Mod	R7303 Flame Controller	W8066 UV Lamp
400 Gas TX	8000 Gas Controller	DE5994-003 E-Mod	R73XX Controller Bds	W868
405 Gas TX	808 Transmitter	EQ2220GFM	R8460 Gas Controller	X7050 xWatch
410 Gas TX	810 Gas Controller	Gas Sensor	SW9200 SlickWatch	
415 Gas TX	820 Gas Controller	K-Series TX	U7099 Flame Detector	
500 Gas TX	880 Gas Controller	PW9200 PathWatch	U7600 A/B/C Flame Det	

FACTORY REPAIR PRICING POLICY

In order to provide faster turnaround time on product repairs at our factory in Minneapolis, Detector Electronics has initiated standard or fixed pricing. The standard pricing will apply to groupings of similar products. In order for the program to be successful in providing the shortest repair time, we will be requesting that an authorized purchase order for the amount of the standard pricing be issued prior to our issuing a return authorization number. Please note that no guarantees for repair lead time can be given for product returned without return authorization and an authorized purchase order.

The standard pricing does not apply when a unit is returned for repair and is tested with no defect or problem discovered. A standard test fee will apply for out of warranty units that are tested only. Also, units requiring major component assembly replacement such as circuit boards, sensor modules and faceplates etc., will be invoiced at actual time and material costs. Det-Tronics will contact the customer for approval before proceeding if the repair falls out of our standard guidelines. Test fees will be waived if the returned unit is repaired or a replacement purchased.

Typical repair lead times are one to two weeks after receipt.

Standard Pricing: (Freight costs and applicable taxes will be added to invoices at actual costs.)

Any product that does not fall into one of the above classes will be charged at 40 percent of the current list price.

Repair Center Warranty Policy

Repair Center services performed (excluding all gas sensor inspections and software-related repairs) are warranted against defects in material and workmanship for a period of two (2) months from date of shipment from Detector Electronics Corporation (Det-Tronics). This warranty applies only to the material and workmanship directly related to the specific repair services performed, and does not apply to unrelated device or component failures. This warranty does not cover device failures due to exposure to corrosive environments, unauthorized field repairs or alterations, damage caused by accident, abuse, negligence, abnormal use or acts of Nature. Fuses will be considered to have failed due to external causes and therefore are not covered under this warranty.

Det-Tronics' liability and Buyer's exclusive remedy against Det-Tronics is expressly limited, at Det-Tronics' option, to the repair or replacement of the defective good(s), with Det-Tronics returning the repaired or replaced good(s) to the Buyer F.O.B. destination at the lowest cost. Any part, item or equipment repaired or replaced and returned to Buyer shall be warranted by Det-Tronics for the remainder of the original warranty period.

This warranty applies only to the equipment delivered which after shipment from Det-Tronics' factory have not been altered, changed or repaired by others. The products of other manufacturers are covered only by such warranties as made by these original manufacturers even though such items may have been included as components.

IN NO EVENT SHALL DET-TRONICS OR ITS SUBCONTRACTORS OR VENDORS BE LIABLE IN CONTRACT, TORT, STRICT LIABILITY, WARRANTY, OR OTHERWISE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL LOSS OR DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO DAMAGE TO OR LOSS OF PROPERTY OR EQUIPMENT, LOSS OF ANTICIPATED PROFITS OR REVENUE, CLAIMS OF CUSTOMERS, OR HARM TO GOODWILL OR BUSINESS REPUTATION, LOSS OF USE OF SYSTEM, NON-OPERATION OR INCREASED EXPENSE OF OPERATION OF OTHER EQUIPMENT DIRECTLY OR INDIRECTLY ARISING FROM THE SALE, HANDLING OR USE OF THE EQUIPMENT, OR FROM ANY OTHER CAUSE RELATING THERETO AND DET-TRONICS' LIABILITY HEREUNDER. The remedies set forth above and the obligations and liabilities thereunder are exclusive and in lieu of all other remedies, warranties, guarantees or liabilities expressed or implied, arising by law or otherwise including without limitation, any obligations of Det-Tronics with respect to merchantability and fitness for a particular purpose/use or whether or not occasioned by Det-Tronics' negligence. Det-Tronics shall not be liable to the Buyer for any claims, demands, injuries, damages, actions or causes of action whatsoever based on negligence or strict liability.

If, after inspection of the returned equipment, Det-Tronics determines that the defect is a result of damage, misuse, mishandling, installation, abnormal conditions of storage or operation, unauthorized repair or modification, or due to the Buyer's failure to install, maintain or operate the equipment in compliance with the written instructions, all expenses incurred by Det-Tronics in connection with the replacement or repair of the equipment shall be for the account of the Buyer. Any equipment returned to Det-Tronics for replacement shall become the property of Det-Tronics.

The liability of Det-Tronics, its subcontractors or vendors with respect to any contract, or anything done in connection therewith or from the Field Service; Technical Assistance, manufacture, sale delivery, resale, installation, repair, replacement or use of any service or equipment covered by or furnished under this Contract, whether in contract, in tort, in warranty, in strict liability, or otherwise, shall not exceed the original purchase price paid on the contract. If the Contract provides for the furnishing of more than one unit of equipment or materials, the limitation prescribed hereinabove shall be applied to each individual unit with respect to which such breach has occurred and "contract price" shall be deemed to mean the unit price specified in the Contract, or if none is specified, a proportionate part of the total price stipulated for all such units.

The validity, performance and interpretation of the limited warranty shall be governed by the internal laws (and not the laws of conflicts) of the State of Minnesota. All disputes arising in connection with the limited warranty shall be resolved, if not sooner settled, by a court of competent jurisdiction located in Hennepin County, Minnesota, USA.

REFERENCES

2009 DET-University Field Training Rate Schedule

Training Deliverables

All courses provide verbal presentation, practical hands-on with applicable equipment or software, course material handouts, and respective product documentation for each participant. Certificates of Completion are issued on request.

Factory-Certified Technical Trainer Rates

On-Site Per Day Rate (not to exceed 4 persons or 8 hours)....$1,600.00
Day Rate for Each Additional Person (not to exceed 10 total persons)....$350.00
Webinar/Phone Training Hourly Rate....$150.00
Custom Course Development Hourly Rate....$200.00
Custom Demonstration Setup (Requiring Project Engineering) Day Rate....$1450.00
On-Site Hourly Rate....$200.00
Time and One-Half....$300.00
Double Time....$400.00
Travel Per Hour Rate....$100.00

Travel, Shipping, and Living Expenses

Airfare, Auto Rental, Parking, Hotel, Meals, etc. ....Cost +10%
Mileage....$0.585 / mile
Shipping (each 2-person training demo kit weight can reach 100 lb)....Cost +10%

Workday Defined

The above charges are for a normal eight-hour working day with time and one-half charged for Saturdays, and time over eight (8) hours for a weekday; Sundays and holidays and work after twelve (12) continuous hours will be charged at double time. Det-Tronics will supply receipts and documentation for the substantiation of reasonable travel and living expenses. These shall include (1) air travel receipt if used, (2) hotel receipt if used, and (3) car rental receipt if used. No other receipts for living expenses will be furnished unless specifically requested by the purchaser in writing prior to the start of the assignment.

Notes

1. Det-Tronics personnel are not required to work more than 12 hours in any 24-hour period.
2. All weekday or weekend travel time will be charged accordingly.
3. Eight-hour minimum charge for all one-day sessions with four-hour minimum per day thereafter.
4. Hazardous Duties, Offshore or other duties defined as hazardous (offshore platforms, chemical exposure, etc.) are subject to an additional charge of $200 per day above the standard daily rate.
5. All rates are in U.S. dollars. Work performed in areas with a current U.S. State Department of Transportation Warning of “Not Recommended for Travel for US Citizens” will be invoiced at a “Hazardous Duties” rate.
6. Trainer time, if put on “hold” at job-site or hotel, will be charged at the regular daily rate.

Holidays

New Year January 1 and 2	Independence Day July 3	Christmas December 25 through 31
Good Friday April 10	Labor Day September 7	
Memorial Day May 25	Thanksgiving November 26 and 27	

Training Event Scheduling

Typically scheduled within 8-12 weeks of receiving purchase order; dependent on trainer and equipment availability.

Terms of Payment

Purchase Orders must be received prior to shipping equipment and conducting training sessions. Fax to 952-829-8750. Training Invoices are due and payable upon receipt. International Training Support is by Letter of Credit or Prepaid (estimated amount).

Prices are effective September 1, 2008 and subject to change without notice.

2009 Field Services Rate Schedule

Field Service Engineer and Project/Software Engineer

Rates	Field Service Engineer	Project/Software Engineer
On Site Per Day Rate	$1,400.00	$1600.00
On Site Per Hour Rate	$175.00	$200.00
Time and One-Half	$262.00	$300.50
Double Time	$350.00	$400.00
Travel Per Hour Rate	$110.00	$120.00

1. Time and one-half applies to all work/travel performed after 8 hours per day or on Saturday.
2. Double time applies to all work/travel performed on Sundays, holidays, and work after 12 continuous hours.
3. Det-Tronics personnel are not required to work more than 12 hours in any 24-hour period.
4. All weekday or weekend travel time is chargeable per the above notes.
5. Eight-hour minimum charge for all one-day service calls with four-hour minimum per day thereafter.
6. Hazardous Duties, Offshore or other duties defined as hazardous (offshore platforms, chemical exposure, etc.) are subject to an additional charge of $220 per day above the standard daily rate.
7. Work performed in areas with a current US State Department of Transportation Warning of "Not Recommended for Travel for US Citizens" will be invoiced at the "Hazardous Duties" rate. All rates are in U.S. dollars.
8. Technician time, if put on "hold" at the job-site or hotel, will be charged at the regular daily rate.

Detector Electronics Holidays

New Year January 1 and 2	Independence Day July 3	Christmas December 25 through 31
Good Friday April 10	Labor Day September 7	
Memorial Day May 25	Thanksgiving November 26 and 27	

Workday Defined

The above charges are for a normal eight-hour working day with time and one-half charged for Saturdays, and time over eight (8) hours for a weekday; Sundays and holidays and work after twelve (12) continuous hours will be charged at double time. In addition, the travel and living expenses will be billed at cost. Det-Tronics will supply receipts and documentation for the substantiation of reasonable travel and living expenses. These shall include (1) air travel receipt if used, (2) hotel receipt if used, and (3) car rental receipt if used. No other receipts for living expenses will be furnished unless specifically requested by the purchaser in writing prior to the start of the assignment.

Expenses

Expense	Rates
Travel	At Cost +10%
Shipping	At Cost +10%
Living Expenses	At Cost +10%
Mileage	$0.585/mile

Terms of Payment

Purchase Orders must be received prior to shipping equipment and/or scheduling service. Fax to 952-829-8750. Invoices are due and payable upon receipt. International Field Service Support is by Letter of Credit or Prepaid (estimated amount).